00059562

NOT TO BE ISSUED
OUT OF THE LIBRARY.

BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY,
TOWN HALL, BOMBAY.

Digitized with financial assistance from the
Government of Maharashtra
on 27 February, 2016

IDEAS

OR,

OUTLINES OF A NEW SYSTEM OF PHILOSOPHY.

51.562
de

BY

ANTOINE CLAUDE GABRIEL JOBERT,

AUTHOR OF THE 'PHILOSOPHY OF GEOLOGY,' &c. &c.

"AUDI ALTERAM PARTEM."

7. f. 13

LONDON:

SIMPKIN, MARSHALL, AND CO.,

STATIONERS' HALL COURT.

1848.

1140
Job/Item
59562
00059562

TO

THE REV. ADAM SEDGWICK,

WOODWARDIAN PROFESSOR OF GEOLOGY IN THE UNIVERSITY OF CAMBRIDGE.

DEAR SIR,

MY offering to you the Dedication of this ssay, when the work which I principally oppose has en also inscribed to yourself, is a striking proof the liberal and disinterested spirit with which you disposed to listen to contrary opinions.

Strange as it may appear, although the system ich I maintain is, in some manner, the reverse of t of your learned friend, it seems that we could ncur, as upon a common ground, in the general ws expounded in your Discourse on the Studies of University. This might perhaps be received as a sfactory explanation of the anomaly of this double

dedication; but the real motive is the profoun esteem which philosophers of the most opposite doc trines must entertain for your judgment.

I remain, dear Sir,
Your most sincere admirer
and respectful servant,
THE AUTHO

PREFACE.

HAVING learnt from experience that there is a loss of energy and power in the translation of complex ideas from one language into another, because the figures and metaphors appropriate to the genius of an idiom, with which you are tolerably well acquainted, suggest themselves more readily to the mind by a direct exertion, than they can through the differing metaphors and figures of another idiom, I have at once written the whole of this Essay in the English language; and I hope it will be found that it has gained in strength and terseness upon my English version of the 'Philosophy of Geology.' The book is not yet written in French; and if I ever publish it in my native tongue, singular to say, it will be only as a translation.

I think I may add, as an excuse for any imperfections and gallicisms which may be found in these pages, that the work is the produce of my own unassisted efforts; and perhaps also it will be as well to inform the reader, from the first, that the object I have in view is to examine and ascertain the natural and philosophical ground of the idea of GOD.

CONTENTS.

ESSAY THE FIRST.

CHAPTER I.

Page

§ I. That the idea of Causation must not be considered, *à priori*, as dependent on the constant uniformity of the antecedent fact—§ II. Preamble 15

CHAPTER II.

§ III. Sir John Herschel's doctrine on Causation discussed—§ IV. Sterility of his proposed basis—Cause of his error—§ V. That the relation between antecedent and consequent fact subsists independently of our consciousness 19

CHAPTER III.

§ VI. Dr. Whewell's view on Causation—§ VII. His doctrine on General Ideas examined according to the rules of common sense—§ VIII. His doctrine on the idea of Space—§ IX. On the idea of Time—X. On the idea of Motion—§ XI. On the idea of Number—§ XII. On the idea of Substance—§ XIII. On the idea of Cause 28

CHAPTER IV.

Page

§ XIV. Dr. Whewell's doctrines examined as *transcendental*—§ XV. His fundamental fallacy — Supposed antithesis between Thoughts and Things—§ XVI. Syllogism against the doctrine that Sensations and Ideas are like Matter and Form—Answer to the Syllogism—Refutation of the Answer—Proofs that Dr. Whewell's doctrine is in contradiction with itself 43

CHAPTER V.

§ XVII. Examination of transcendental arguments on Universal and Necessary Truths being *à priori* Ideas—Remarks of Dr. J. S. Mill—§ XVIII. Stronger arguments—Idea of number taken as a test of the doctrine —§ XIX. New argument showing that the Idea of Number is not an *à priori* Idea—§ XX. On Mathematical Truths—That their condition of real existence is to be found in matter itself—Dr. Whewell's mode of argumenting analyzed—§ XXI. Lorenz Oken's discoveries 53

CHAPTER VI.

§ XXII. Interpretation of the word Idea, a source of misunderstanding amongst philosophers — Hume — Reid. Dugald Stewart against Locke, Hume, &c., that all ideas are sensations—His example of an intuitive necessary truth examined and rejected 67

CHAPTER VII.

§ XXIII. That the position taken by the author in the last chapters appears unassailable — That Dugald Stewart's *first occasions* are *first reports* of the senses . 72

CHAPTER VIII.

Page

§ XXIV. German and English school towards the end of the last century, against Bacon and Locke—That the supporters of that philosophy are pursuing a phantom —Pseudo-substantial substratum of the Ancients—Aristotle's phantasms or species, &c.—§ XXV. Kant's doctrine analyzed—§ XXVI. Coleridge's doctrine—§ XXVII. How imagination can be allured into these errors—Argument framed on the representation of an orange—Its fallacy 75

CHAPTER IX.

§ XXVIII. Real character of the physical philosophy of Kant—Monads of Leibnitz—Pure idea of substance—The noumenon—Kant's ground in its simplest form—His contradictions—How he tries to rectify them—His idea of a boundary between phenomena and noumena —Indistinctness of this line—Judgment on his system —V. Cousin and De Remusat—§ XXIX. That Dr. Whewell has left aside the idea of the Noumenon—His endeavour to establish the same antithesis between necessary and experiential truths as between thoughts and things—That his doctrine resolves itself into pure spiritualism 89

CHAPTER X.

§ XXX. Fichte—His spiritualism—His doctrine nearly allied to that of Berkeley—§ XXXI. Its fallacy on sounds and colours—Reality and entity of outward objects—§ XXXII. The author's interpretation of the *Ego* and the *Non-ego*—§ XXXIII. On the *Oneness* of the idea of *Perception-of-matter*—Axiom-makers—Perception, what it implies—Strong argument against the *Perception-of-matter* Philosophers 101

CHAPTER XI.

Page

§ XXXIV. Disputes on the meaning of words—Philosophers in contradiction with themselves—Berkeley—Denies the existence of the material world—Misinterpreted by Dr. J. S. Mill—Attacked by Kant—§ XXXV. Berkeley's argument put in a strong light—That he has enclosed himself in a vicious circle—His argument is superficial—§ XXXVI. How can the problem of the materiality of matter be solved?—§ XXXVII. How Berkeley puts himself in contradiction with his doctrine, and changes his ground—That the material world is the designed object of the intellectual—That the inorganic world has an existence independent from the organic 108

CHAPTER XII.

§ XXXVIII. The Kantian doctrines contrary to the evidence of our senses and reason—Sensations precede Ideas—Soul of man at first a blank sheet prepared by the divine hand—Instincts, desires, and affections cannot be assimilated to an intuitive knowledge of great generalizations—§ XXXIX. A short theory on the formation of Ideas 118

CHAPTER XIII.

§ XL. Origin of our ideas—§ XLI. That a truth is true in itself—What are universal truths—That there is no difference between truths—Truism about necessary truths—That there are not two opposite sorts of truths—That all truths are experiential truths—No antithesis between truths—§ XLII. All truths are founded on facts—Classes of individual objects—Motions of objects—Natural laws 123

CHAPTER XIV.

Page

§ XLIII. Conclusions—Origin of the idea of Causation —Dr. Brown—Hume—In what they agree—Examination of Dr. Brown's opposition to Hume's theory that the idea of power is derived from memory, and the idea of necessity from experience—Inconsistency of Dr. Brown's disquisition—§ XLIV. Why Mr. A. Comte has thought that the word *cause* could be dispensed with in scientific language—§ XLV. M. A. Comte's error in rejecting all inquiries after causes—Natural ground of the idea of God—The idea of Causation to be pursued in the historical series of natural events 128

CHAPTER XV.

§ XLVI. A new Idea—§ XLVII. Founded on experience 137

IDEAS.

ESSAY THE FIRST.

ON CAUSATION AND FUNDAMENTAL IDEAS.

CHAPTER I.

§ I. That the idea of Causation must not be considered, *à priori*, as dependent on the constant uniformity of the antecedent fact—§ II. Preamble.

§ I.

I HAVE endeavoured, in the 'Philosophy of Geology,' to show that, although the idea of Causation may have its origin in the observation of the constant uniformity of the fact antecedent to any change, this uniformity must not be considered *à priori* as an invariable rule, in our study of the events which form the natural chronological history of our planet;

since the discoveries of modern science have exhumed monuments of the past, which have led us to the contemplative idea of a beginning of the actual system of the inorganic world, and of a condition of the terrestrial surfaces anterior to the existence of animals and plants, and the subsequent fact of an organic creation—revelations which are in perfect accordance with the ancient traditional creed of a primordial creative act, anterior to the relations which subsist between events in the established order of nature.

It is my intention in the present book to add supplementary evidence to these views, and to strengthen, by more elaborate investigations, the deductions which I have already drawn from the examination of geological facts.

As in these inquiries the idea of Causation, taken in an enlarged sense, is proposed as the fundamental basis of a natural philosophical system, I feel it incumbent upon me to enter, more fully than I have done in the above-mentioned book, into the investigation of the origin and real value of that idea,

either in itself, or as standing on a parallel line with the ideas of Space, Time, Number, and in general with those ideas which philosophers have regarded as fundamental, and which the Scotch, the German, and I should say the English *Whewellian* school of metaphysicians, consider as existing *à priori* in the human mind.

§ II.

In the middle of the conflict which has taken place, and still continues unabated, between the Lockian and the Kantian doctrines, metaphysical problems have remained upon an uncertain and vacillating basis; and therefore I may hope that the present Essay will be received with indulgence, as a justifiable attempt at settling questions still pending undecided, but which the human mind will never leave until their solution has been definitively obtained.

With this preamble I now proceed in my investigations. I will only add, that the reader must not expect to find here a complete critical historical view

of the state of metaphysical science: but only a searching examination of the true ground of general ideas, considered in themselves, and in their bearing upon my own system.

CHAPTER II.

§ III. Sir John Herschel's doctrine on Causation discussed—
§ IV. Sterility of his proposed basis—Cause of his error—
§ V. That the relation between antecedent and consequent fact subsists independently of our consciousness.

§ III.

An eminent philosopher and mathematician has disputed the ground upon which Hume's views are founded,* and tried to trace the connexion of cause and effect to an inward faculty of the mind; introducing thus, into the question, an element of confusion and error, which the power of his intellect, and the great authority of his name, will not render it a very easy task to dissipate.

"Whatever attempts," says Sir John F. W. Herschel, "may have been made by metaphysical writers to *reason away* the connexion of cause and effect,

* I here name Hume, because the views opposed by Sir J. Herschel belong to him, not to Dr. Brown.

and *fritter it down* into the unsatisfactory relation of habitual sequence, it is certain that the conception of some more real and intimate connexion is quite as strongly impressed upon the human mind as that of the existence of an external world . . . . . it is our own immediate consciousness of effort, when we exert force to put matter in motion, or to oppose and neutralize force which gives us this internal conviction of power and causation." *

It appears from this, that Sir John Herschel is impressed with the idea that the definition of *Causation*, as a simple relation of *habitual sequence* between events or motions, is insufficient or incomplete as the basis of a philosophical system; and it has been seen that I agree with that part of his views, although for very different reasons.

It must be remarked that the element, viz., consciousness of effort, which is said to have been omitted by an *enormous oversight* of *Dr. Brown*, in the sequence of events, appears, nevertheless, altogether extraneous to the doctrine itself.

* 'Treatise on Astronomy,' chap. vii. p. 233.

Although we are bound to the universe by the relations of our organs with external things, in the judgment which we form of them, we do not necessarily enter into the examination of the connexion which they have with our minds; but considering them as having an independent existence, we study the laws which govern the phenomena of nature, as disinterested spectators. True it is, that in contemplating our own faculties, as forming a part of the sensible world, we may recognise that there is within ourselves, or within our mind, the power of originating an impulse. But, knowing that we are possessed of this faculty, or only, as Sir J. Herschel calls it, "having the immediate consciousness of effort," has nothing to do with the idea of the relation between the facts through which our *will* must come into action. Any impulse which our mind, through the agency of our body, may give to a foreign, or even to our own body, or its parts, forms, in Dr. Brown's doctrine, an antecedent fact, which is followed by its appropriate consequent fact; and it is from the relation of these, as well as of other natu-

ral facts, between themselves, that, according to that doctrine, we derive the idea of Causation.

Thus, if we let a heavy body drop from our hand, or if we throw a stone in the air, or stop the motion of a machine, it is not from the act of our will that we deduce the philosophical idea of Causation; though in common language, our muscular movement or effort will be said to be the cause of the change; but it is from this experience that we learn the power of our will; and we derive the idea of Causation from the remark, that in similar circumstances, the same act produces always the same result; that whenever a hand drops a heavy body, it will fall to the earth in a perpendicular direction; that whenever a stone is thrown in the air, at a certain angle, it will describe a certain curve in falling to the ground; that the motion of a machine will cease as long as a sufficient muscular effort is used to neutralize the elasticity of the spring or the force of the motive power. Our action, whether it is or not directed by the mind, forms an antecedent fact, which, in similar circumstances, is

always followed by the same result: it is to these antecedent facts, observed from our own connexion with nature, no less than to the antecedent facts of other material connexions, as pointed out by Dr. Brown in the case of the fire melting the metal, and by Dr. J. S. Mill in a very great variety of examples and details, that we give the name of Causes; and to the results, or following facts, the name of Effects. From the observation of this constant relation between facts, we derive the general idea of Causation. It would, therefore, be impossible to adjust Dr. Brown's philosophy to that of Sir John Herschel, and introduce into the enumeration of the sequence of events, the idea of our own consciousness of effort.

§ IV.

It would be a very sterile philosophical system indeed which could rest on Sir John Herschel's proposed basis. For there is no very great depth in the idea of *consciousness of effort;* though it is proclaimed as "a thing entirely different from mere

desire or volition on the one hand, and from mere spasmodic contraction of muscles on the other."

An ape throwing a nut or jumping on a tree, has the *consciousness of effort*, for he proportionates the contraction of his muscles to the effort requested for the motion of his body and limbs. A dog, a squirrel, a stag, or a kangaroo, in making a spring, must have the *consciousness of effort*, or the *conviction of power*, according to the definition above; otherwise how could the animal calculate the amount of force required for alighting at the measured distance? Consciousness, even in inferior animals, must direct volition, otherwise how could we account for the volition having such an exact command over the *quantum* of the effort?

What then would be the philosophical value of the idea of Causation, if it was only the equivalent of a consciousness of effort? seeing that there is no more depth in the act of dropping a stone, whether the hand is that of a man or that of an ape. And what insight could we ever procure of the principles of nature, by a faculty possessed by the lower animals

as well as by ourselves? It might be said that we can reason upon the fact of our having the consciousness of effort, or, in other words, that we know that we have the consciousness of effort, while the ape does not: this is true; and it is a most essential mark of the superiority of our race. We have the consciousness of our consciousness,—this is certain. But when we go so far in mental abstraction, we entirely lose sight of the problem in question. That *the consciousness of our consciousness* should be equivalent to the idea of Causation is unintelligible, for it is not possible to connect this idea, the consciousness of our consciousness, with that of the sequence of natural events. This sequence exists independently of the knowledge that we acquire of its existence. Hence Sir John Herschel's opinion, whatever view we may take of it, appears absolutely inadmissible.

If the idea of muscular force could be considered as having any relation at all to the origin of the idea of Causation, it would be only in as much as, in transforming our ideas into graphic signs, we may compare, or assimilate, by a metaphor, natural

general forces to our own powers. But arguing from this—that the idea of these powers is the real source of the idea of general forces, would be making a merely philological form to decide an independent philosophical argument, and such is, in my opinion, the true cause of Sir John Herschel's error;* an error on which I would not have dwelt so long, if it

* I think I may as well add to this, that Sir John Herschel's argument is not a novelty, for it has been answered by Hume in the following way:—

"Some have asserted that we feel an energy or power in our mind; and that, having in this manner acquired the idea of power, we transfer that quality to matter, where we are not able immediately to discover it. The motions of our body, and the thoughts and sentiments of our mind (say they), obey the will; nor do we seek any farther to acquire a just notion of force or power. But to convince us how fallacious this reasoning is, we need only consider, that the will, being here considered as a cause, has no more a discoverable connexion with its effects, than any material cause has with its proper effect. So far from perceiving the connexion betwixt an act of volition and a motion of the body, it is allowed that no effect is more inexplicable.....in short, the actions of the mind are, in this respect, the same with those of matter. We perceive only their constant conjunction, nor can we ever reason beyond it. No internal impression has an apparent energy more than external objects have." Hume, *On the Understanding*, part iii. § xiv.

had not been promulgated by a man whose works can never be perused by the lovers of science without a deep admiration, and whose ideas are admitted by many on the simple authority of his name.

§ v.

There can be no objection to the proposition (No. 371) that "all bodies with which we are acquainted descend to the earth, and are urged thereto by a force or effort the direct or indirect result of a consciousness or a will, which force we name gravity." But we arrive at this notion through the observation of the antecedent and the consequent facts. The relation subsists independently of our consciousness; for it might have existed even if man had never come into the world, and the extinction of our species would not interfere with these laws, if the actual order of nature remained as it is, with the exception of our presence; as there is no doubt it could. Sir John would not oppose this, I think, since he rejects the philosophy of Berkeley and admits the real existence of an external world.

CHAPTER III.

§ VI. Dr. Whewell's view on Causation—§ VII. His Doctrine on General Ideas examined according to the rules of Common Sense — § VIII. His Doctrine of the idea of Space—§ IX. On the idea of Time—§ X. On the idea of Motion—§ XI. On the idea of Number—§ XII. On the idea of Substance—§ XIII. On the idea of Cause.

§ VI.

THE Rev. Dr. Whewell, in his 'Philosophy of the Inductive Sciences,' a very eloquently written book, full of profound and ingenious details, appears to have taken nearly the same view of the idea of Causation as Sir J. Herschel; for he admits that the conception of FORCE involves the idea of CAUSE, and that this conception is suggested by *muscular action exerted.* To this I consider that what has been said before is a sufficient answer. But as Dr. Whewell classes the idea of Causation amongst other general ideas which he considers as existing *à priori* in the human mind, it will be necessary to give here

a rapid sketch of his system, and to examine the fundamental ground of his philosophical schemes.

§ VII.

According to Dr. Whewell's doctrine, the ideas of Space, Time, Number, Motion, Substance, Causation, &c. are not derived from experience, *because these truths are necessary and universal.*

But because truths are universal and necessary, it does not follow that our ideas of them are not derived from experience. We can only conclude from Dr. Whewell's arguments that these ideas are founded on truths; and that there is necessarily, therefore, a universal external world independent of our ideas. It is from our contact with this outward world that our ideas of Space, Time, Motion, Substance, and Causation arise.

§ VIII.

"The idea of SPACE," says Dr. Whewell (Aphorism XXI.), "is not derived from experience, for

experience of external objects presupposes bodies to exist in space."

But because bodies exist in space, without our experience, it does not follow that our ideas of bodies are not derived from experience.

In the developments of his doctrine (Chapter III.) Dr. Whewell remarks:—

That "Experience gives us information concerning things without us: but our apprehending them *as* without us, takes for granted their existence in space."

This is true; but it does not show we have an idea of things independent of experience.

"We cannot," adds Dr. Whewell, "derive from appearances, by the way of observation, the habit of representing things to ourselves as in space; for no single act of observation is possible, any otherwise than by beginning with such a representation, and conceiving objects as already existing in space."

This is only affirming that we cannot derive the general idea of Space from the idea of particular spaces, but that it exists previously in our mind.

To which it is sufficient to oppose the simple truism, that our general idea of Space is composed of ideas of particular spaces, whether these particular spaces are known to us from direct experience, or attained by the power of our imagination, in proceeding from the known to the unknown.

We acquire the idea of Space as we receive the impressions of outward objects, from the tenderest infancy. The impressions are at first weak, as is the power of discernment of the child. But the spacial parts, or, in other words, the outlines of objects, become more and more determined in the mind as the power of discernment increases, up to the time of mature reason, when we are able to shape into general ideas the result of our experience, and even to construct philosophical systems.

I come now to the last argument—"that our mode of representing Space to ourselves is not derived from experience; because, through this mode of representation we arrive at propositions which are rigorously universal and necessary."

But, whether propositions, or, more correctly,

whether truths are universal and necessary or not, they must be so independently of our mode of representing them to ourselves; for *our ideas of them can neither make them what they are, nor change their nature.* Therefore, if we find that they are universal and necessary, it must be because we have discovered that they are so, by becoming acquainted with them, or, through experience.

It is added, as an example, "that two sides of a triangle are greater than the third; that this is true of all triangles; true, in such a way that the contrary cannot be conceived, and that experience could not prove such a proposition."

All that can be concluded from this is, that necessary and universal truths exist independently of our experience; that we know them to be so, through our experience; and that we can reach the *absolute* by the power of our imagination.

That these truths exist *à priori* in the mind, is an unjustifiable, and even unintelligible assumption. The simple fact being, that the sentient principle within us enters in contact or in communion with them,

and may thus recognise their necessity and universality. This is the only philosophy that can bear the test of common sense; and on this test I put the greatest reliance, being entirely of the opinion of my celebrated countryman, M. Victor Cousin, when he says: "Nous avouons que nous préférons encore le sens commun au génie, et l'esprit de tout le monde à celui d'un homme quelqu'il soit."*

§ IX.

"The idea of TIME," says Dr. Whewell, "is not derived from experience; for experience of changes presupposes occurrences to take place in time."

This is a reproduction of the fallacy in the argument on space. Because *occurrences* take place in time, it does not follow that our idea of changes (or occurrences) is not derived from experience.

Time is nothing but the succession of events, and we know events by experience only. Our judgment on the succession of events cannot be formed but from facts *successively* communicated by our

* 'Leçons sur la Philosophie de Kant,' Paris, 1844.

senses; and, therefore, facts are the measure of events, independently of the idea which we form of this measure.

Dr. Whewell's mistake consists in this,—that he confounds the *idea* of time with time itself.

§ x.

In Aphorism XLIII. the learned Doctor only affirms, "that there is a pure science of *motion*, which does not depend upon observed facts, but upon the idea of motion." As this is not supported by any argument, it is to be answered by affirming, that we can only acquire the idea of motion by the observation of something that is moved; a truth upon which Reid himself has strongly insisted, and that many will admit without further elucidation. There is no possibility of conceiving motion independently of matter; and the same must be admitted of the idea of space and time.*

It is, singularly enough, acknowledged (chapter

* See 'Philosophy of Geology,' second edition, page 39 and following.

viii., book iii., vol i.) that the laws of motion were *collected* from experience; but to dispose of the contradiction which the author very well perceives, "that experience has done that which *he* has proved she cannot do," he enters into a long and desultory discussion, of which the following is an extract, which may serve as a sample of the whole chapter:—

"When we return upon our path, we cannot find the point at which we deviate, we cannot detect a false step in our deduction.....our senses give us no evidence of a necessary connexion in phenomena. Our observation must be limited, and cannot testify concerning anything which is beyond its limits," &c., &c., &c., and from want of better arguments, the author tries to change the field of inquiry: unable to find why the laws of motion, contrary to his system, are not axiomatic, since the knowledge of these laws is acquired from experience, he imagines that they "borrow their *form* from the idea of Causation, though their *matter* may be given by experience," and that, "hence they possess a universality which experience cannot give." But this is only

displacing, not removing the difficulty, since there is as much reason to think that the idea of Causation has been collected from experience, as the idea of motion itself. This heavy chapter of painfully elaborated arguments, plainly shows the extreme difficulty the author finds himself in to maintain the false position he has assumed in contending that "experience cannot conduct us to universal and necessary truths."

§ XI.

As to the idea of NUMBER, it is assumed that since we cannot see or imagine we see five things, without perceiving that three and two, or four and one, are five, it follows that we perceive this truth by intuition.

But it might be remarked that we never know, or imagine, numbers, before we have received impressions of things, and that no philosopher has yet been able to prove that series of numbers are not the equivalents of series of real or imaginable sensations. Universal and necessary truths, concerning

numbers, are independent of ourselves; like other physical truths, they belong to the external world; and, therefore, are taken cognizance of by the mind entering in contact with them through the senses. I shall consider this question of number more fully in another chapter.

§ XII.

In Aphorism LXXVII. Dr. Whewell says, that "we have an idea of substance," and that "an axiom involved in this idea is, that *the weight* of a body is the sum of the weights of all its elements."

Here we are given to understand that the idea of substance exists in our mind on account of the rule established in Aphorism III.; that "ideas existing in our minds only, can give to the phenomena that coherence and significance which is not an object of sense." But this is simply affirming that our general idea of substance is not composed of the particular ideas of substance which we have acquired by experience, and to refute this assumption we have

only to refer to our argument against the same assertion about the idea of space.

The axiom of the indestructibility of substance, says Dr. Whewell, "proves the existence of the idea of substance:" he would grant, no doubt, that we shall not disturb the logical value of the argument, if instead of using the word axiom, we employ the word *idea;* because there is no particular reason why the word *axiom* should be used here, if it is not to cover a fallacy;—then the sentence is, "the idea of the indestructibility of substance proves the existence of the idea of substance." Now, as the word idea is repeated in both terms, it may be eliminated without altering the value of the argument: thus it will remain that the "indestructibility of substance proves the existence of substance," which is certainly as true as when I affirm that the hardness of a stone proves the existence of the stone. But when it is concluded from such reasonings as these, that "the idea of substance is a necessary and universal truth, collected not from the evidence of our senses, but from *the operations of our ideas*, we

can only wonder at seeing to what degree of error a man of profound skill and of great judgment may be led by the unguarded admission of *one* first general fallacy.

§ XIII.

We come now to the idea of cause, and it is also asserted (in Aphorism XLVI.) that "the idea of cause is not derived from experience, for *in judging of occurrences which we contemplate*, we consider them as being universally and necessarily causes and effects, which a finite experience could not authorize us to do."

Here it is to be remarked that the expressions "in judging of occurrences which we contemplate," are equivalent to "having experience of;" for in order *to contemplate* we must not only be acquiring, but have already acquired experience; contemplation being the act of considering with attention, and to judge being the act of shaping into an idea the object or objects of contemplation.

The aphorism, disengaged from the elements

which disguise its real import, would be formuled thus:—

"The idea of cause and effect is not derived from experience, for experience tells us that causes and effects are universal and necessary, whilst a *finite* experience could not authorize us to do so."

The fallacy is the same as that on space, time, matter, and substance. The introduction of the word *finite* only proves the perplexity the learned author was in to prevent a direct contradiction in the expressions used in the aphorism. It is true that our experience of things can be but finite, inasmuch as we cannot see further than the limit of the multiplied power of our organs; but our imagination can generalize and reach the idea of the infinite, by a process such as that which I have pointed out in § VIII., and also in the 'Philosophy of Geology.'

"Through our unassisted sight, we discover in the depth of the heavens, innumerable stars: the telescope, multiplying the power of our eyes, shows us, beyond these nearer globes, others whose enfeebled

light appears to melt in the distance; imagination, under the guidance of analogy, leads us to suppose, beyond these latter worlds, other worlds again, whose light, lost in immensity, will never reveal to us their real existence; and, beyond these, we still picture another more distant range, and worlds without end, in the same manner as we conceive series of numbers to which we can add other numbers without limit. Such is the philosophical idea of infinity attached to space: if imagination placed a limit beyond which worlds do not exist, it would still suppose the existence of light, or of some fluid upon which to settle itself; for, if you subtract entirely from the idea of space or extensiveness, the idea of matter, there remains nothing which could serve as a basis for an idea." *

Dr. Whewell's conclusion, "that the axiom that every event must have its cause, is true, independently of experience," only enunciates the fact that there is a succession of events in an outward world, independent of our ideas, or of our own existence.

* The 'Philosophy of Geology,' second edition, p. 41.

The doctrine developed in book iii. rests on the unwarrantable assumption that the idea of cause is introduced in our *experience* by the active, not by the passive, power of our nature. This completely subverts the meaning of the word *experience*, even as admitted by Dr. Whewell himself; for, what could be the difference between experiential and necessary truths, if the latter truths are, as well as the others, introduced in our *experience?*

CHAPTER IV.

§ XIV. Dr. Whewell's Doctrines examined as *transcendental* (!)—§ XV. His fundamental fallacy—Supposed antithesis between Thoughts and Things—§ XVI. Syllogism against the doctrine that Sensations and Ideas are like Matter and Form—Answer to the Syllogism—Refutation of the answer—Proofs that Dr. Whewell's doctrine is in contradiction with itself.

§ XIV.

HITHERTO I have discussed Dr. Whewell's doctrine simply according to the rules of common sense, without entering upon what is called the *transcendental* ground. This, perhaps, would be sufficient for unprejudiced minds; but I know it will be only considered as superficial, and even looked upon with a sort of contempt, by many whose rectitude of judgment has been biased by sophistical subtleties. I will, therefore, now attempt to unravel the metaphysical intricacies with which German and English philosophy have surrounded human knowledge, and then

endeavour to place the basis of our ideas upon its true and natural ground.

§ XV.

The fundamental fallacy of Dr. Whewell's general argumentation is that of assuming that the *thinking faculty*, in the human individual, is the equivalent of the *thought* or the *idea;* or can produce thoughts and ideas, by its own proper power; and that thus this faculty is absolutely independent of the outward world. This fallacy is apparent from the first exposition of his views, in chapter ii., section i., *Thoughts and Things.**

* I give here the passage in full, that I may not be accused of putting my own construction on Dr. Whewell's scheme:—

"The simplest and most idiomatic expression of the antithesis to which I refer is that in which we oppose to each other THINGS and THOUGHTS. The opposition is familiar and plain. Our thoughts are something which belong to ourselves; something which take place within us; they are what *we* think; they are actions of our minds. Things, on the contrary, are something different from ourselves and independent of us; something which is without us; they *are;* we see them, touch them, and thus know that they exist; but we do not make them by seeing or touching them, *as we make*

First it is said, that "our thoughts are something which belong to ourselves—actions of our minds—things are independent of us, we do not make them —but we make our thoughts by thinking them."

By this it is premised that thoughts and *things* form a real antithesis, are quite separate, and exist independently of each other. It would seem, if we stop at these expressions, that the antithesis of thoughts and things is complete and perfect; that our thoughts are independent of things in the same degree as things are independent of our thoughts. It is in this that Dr. Whewell's fundamental error lies: for things being independent of thoughts does not make thoughts independent of things.*

our thoughts by thinking them; we are passive, and things act upon our organs of perception." (Second edition, p. 17.)

* I notice here one of the most flagrant examples of this fallacy. It is said, p. 24, vol. i.:—

"*Facts involve thoughts,* for WE know facts only by thinking about them." Now this is exactly the reverse of the truth, which is that *thoughts involve facts.* The proof that facts do not involve thoughts is, that facts do happen every-

Firstly.—Dr. Whewell assumes that which is denied, or that which is to be proved, viz.:—that thoughts exist in the mind independently of things. Therefore, at this first stage of his argumentation, we stop him, and say that all which follows rests on a *petitio principii.*

Secondly.—It is not only assumed that our thoughts exist in the mind independently of things; but that *we make our thoughts by thinking them.*—But how we can make *a thought* by thinking *a thought*, is what Dr. Whewell does not explain; and it would be only by explaining this, that he could prove that a thought or *an idea* exists in the mind *à priori.* For, if he cannot prove this point, before he introduces into the mind an element of thought, it will be evident that we have made a thought by thinking this element, and not by thinking a thought. Dr. Whewell is, in reality, obliged to introduce that new element, for the last proposition is immediately fol-

where—in the bottom of the sea—in the bosom of the earth, in the moon, the sun, the nebulæ, &c., which WE can never know anything about.

lowed by the expressions which conclude the sentence: "we are passive, and things act upon our organs of perception." This is dropped at the end of the paragraph, as if unconsciously, without showing the necessary connexion which it has with the formation of thoughts or ideas; but why is it there at all, if it is not because the learned author had a secret consciousness that his principles would have been incomplete without this *complemental* element?

However, this passiveness of the mind is soon lost sight of; and it would be easy to follow the learned Doctor, step by step, in the development of his fallacious antithesis, pointing out in each argument the same error which vitiates the whole of his theory of *à priori* ideas; viz., assuming that *fundamental ideas* are, in the human mind, as independent of things as things are independent of ideas: a mistake, however, much more marked in the former edition of his works; and which, I suspect, from a few changes which are introduced in the second edition, Dr. Whewell has begun to perceive, but which cannot be rectified without the whole of his

views on *ideas* assuming exactly the opposite form, that is, by *ideas* being considered as purely derived from sensations.

I will now show, by means of a few examples, how Dr. Whewell's first fallacy pervades the whole ground-work of his philosophy.

§ XVI.

"Sensations and ideas in our knowledge are like matter and form in bodies. Matter cannot exist without form, nor form without matter, yet the two are altogether different and opposite. There is no possibility *either of separating or of confounding them:* the same is the case with sensations and ideas." *

"Ideas are not *trans*formed, but *in*formed sensations; for without ideas sensations have no form." †

From these I think the following syllogism may be constructed, as comprehending exactly the doctrine expressed in the preceding quotations:—

* Aphorism VI. † Aphorism VII.

Ideas are forms of our sensations: universal and necessary truths are ideas: therefore universal and necessary truths are forms of our sensations.

Now, as it is admitted that our sensations *cannot exist* without forms, and that our sensations *are derived from experience*, it follows that ideas are derived from experience also; and the syllogism above is therefore fatal to Dr. Whewell's doctrine of *à priori* ideas.

To this argument the following objection was made by a most zealous advocate of Dr. Whewell's views:—

"The *matter* of our knowledge is derived from experience, the *form* is not.

"You might on the same ground say that the form of all gold coins and plate is derived from the mine; your argument might apply *verbatim*.

"Gold cannot exist without forms, namely, coins, plate, ingots, or some other: but gold is derived from the mine: therefore the forms of gold are all derived from the mine.

"The answer would be, that the matter is de-

rived from the mine, but the form is given by the artificer."

The reply to this is, that since gold cannot exist without form, it has a form in the mine also; and the artificer can only modify forms into other forms, and arrange irregular fragments into coins, plate, ingots, or any other fantastical shape, either in natural moulds, or through imitation or the power of imagination. This cannot impugn the value of my argument, which is, that gold cannot exist without form, and that, therefore, I cannot have the sensation of the matter GOLD without having at the same time the sensation of a FORM of gold. That the mind can combine ideas and work them out into imitative and fanciful forms, is a question into which I need not enter. If matter cannot exist without form, form as well as matter is a condition of our sensation; and if a necessary truth is a form of our sensation, this form must enter our mind at the same time as the matter of the sensation itself; and *the form* of the sensation (or the idea) is, as well as the matter, *derived from experience.*

There is no possibility of avoiding this conclusion.

But I have a still stronger objection to make to my learned opponent's argument. It is, that he could not, in defence of Dr. Whewell's system, employ such a mode of reasoning, because Dr. Whewell not only considers the form of gold as furnished *à priori* by the mind, but the *substance* of gold itself is, in his view, "collected, not from the evidence of the senses, but from the operations of our ideas:" in other words, "the substance, or the matter, of gold, is a necessary and universal truth" *—an idea which cannot be acquired from experience. So that the argument against my syllogism has no value, since that argument is in direct opposition to Dr. Whewell's doctrine—this doctrine being that the mine of gold furnishes *neither substance nor form* to the artificer.

It is also to be remarked here, that this last argument leaves entirely without any real ground the fundamental aphorism (VI.) upon which Dr.

* See 'Philos. of the Ind. Sci.' p. 391.

Whewell's doctrine of ideas is supported. This aphorism affirms, that there is the same relation between sensations and ideas as between matter and form; and both matter and form being, according to the doctrine, *fundamental* or *à priori* ideas, it follows, that the metaphor leads to a result exactly the reverse of the intended conclusions, viz., that sensations, instead of being opposite to ideas, belong to the same category, or that they stand to each other in the same relations as matter* and form, which are both *à priori* ideas, according to Dr. Whewell's doctrine; and thus this doctrine not only is proved to be in direct contradiction with itself, but is overthrown in its very foundation.

* There can be no cavilling about a distinction between the word *matter* and the word *substance*, because it is not only *substance* which Dr. Whewell considers as *idea*, but all the essential qualities of matter, space, time, number, force, and *matter* itself. See p. 80, 'Hist. of Ind. Sci.'

CHAPTER V.

§ XVII. Examination of *transcendental arguments*, on universal and necessary truths being *à priori* ideas—Remarks of Dr. J. S. Mill—§ XVIII. Stronger arguments—Idea of Number taken as a test of the Doctrine—§ XIX. New argument showing that the idea of Number is not an *à priori* Idea—§ XX. On Mathematical truths—that their condition of real existence is to be found in matter itself——Dr. Whewell's mode of argumenting analyzed—§ XXI. Lorenz Oken's discoveries.

§ XVII.

We will now examine upon what *transcendental* argument it has been maintained that universal and necessary truths, or ideas, cannot be acquired through the channel of our senses.

"Universal and necessary truths," it is said, "are *those the negation of which is impossible;* and these truths exist *à priori* in the human mind. They cannot be learnt from experience."

But it has been justly remarked by Dr. J. S. Mill, that in the instance of the axiom that two straight

lines cannot enclose a space, we can very well learn this truth from experience. For, although we cannot see these two lines farther than the powers of our organs allow, imagination can follow them in the infinite, under conditions similar to the conditions of real lines, and that thus the conclusion is an induction from observation.

§ XVIII.

I think that Dr. Whewell's doctrine, on this point, can be opposed with even stronger arguments than those used by Dr. J. S. Mill.

Such is the position taken by the followers of Kant,—that if it is demonstrated that a single universal and necessary truth can be acquired by experience, the whole of the philosophical fabric must give way, and the effective agency of the senses be recognised as the first and necessary element of our ideas.

Now, I think it will be conceded that, in taking the notion of *number* as a test of the antecedence of the impressions of the outward objects for the

formation of ideas, it will be allowed that I enter fairly into the field against these *transcendental* doctrines.

§ XIX.

My argument ran thus:

Two apples and three apples make five apples; an apple, a peach, and an orange make three fruits; a partridge and a pheasant make two birds;—three fruits and two birds make five things.

By observing these relations of things between one another, and between one group and another, we remark that there is an invariable element which is attached to these relations, viz., that apples, peaches, oranges, partridges, and pheasants; or say, moons, suns, comets, planets, and bolides—no matter how they are arranged together (an apple with a moon, a comet with a pheasant, &c.)—will necessarily and absolutely form the same combinations of ⁘ = ⁘ or 1 + 1 = 2; and • + ⁘ = ⁘ or 1 + 2 = 3, &c. &c. How could we help considering from this *experience* that these relations of things are so, have

always been so, and will always be so? Could there be any one who pretends that there might have been a time when two fruits and three birds did not make as much as five things?—or that there will be a time when three comets and two planets will make more than five celestial objects?—or that such things or their equivalent, in another sidereal system, would not bear the same relations to one another?—and if there were such a being, could we not put the real objects, or their images, or their names, or *figures* representing them, before him, to show the absurdity of its being thought that these relations could have been, or could ever be, different from what they are now? Can any philosopher maintain that these relations have not, in the case above, been learnt from experience? And if such a one could be found, should we not be justified in opposing to him the same *fin de non-recevoir* which Reid opposed to those who deny first principles, "that such persons are not fit to be reasoned with?"

Instead of deducing the idea of number from a multiplicity of objects, I could shape my argument

in another form, and make it a *number* of successive impressions, thus comprising the idea of time; but it would neither increase nor diminish the strength of the argument itself. There is not, in my opinion, a proposition more evidently false than the one that numbers are *à priori ideas*, because there is no idea which is more dependent on experience to become appropriated to the mind than that of number; in proof of which, it is sufficient to consider the difficulty with which savages and uneducated persons can make calculations, and the great power of counting which experience gives.

§ XX.

As to mathematical truths, when it is advanced that the proposition "that regular hexagons may be arranged so as to fill up space," may be proved, with the utmost rigour, even if there were not in existence such thing as a material hexagon; I answer, that if you suppose an imaginary hexagon to fill up an imaginary space, you do just the same operation as the bee does when it fills up a real space with real

hexagons; for, doing a thing by figures, or representing a truth by symbols, cannot deprive either the thing or the truth of its reality.

The same argument may be applied to all mathematical and physical truths. They are only representations in the abstract. Their condition of real existence is always to be found in matter itself.

To pretend that we cannot say that "objects create ideas," because "to perceive objects we must have ideas,"* is just falling into the radical error which I have signalized § xv., and doing what is called in the familiar adage "to put the cart before the horse." To say that necessary truths cannot be acquired by experience, is to deny the most clear evidence of our senses and reason, which teach us that *generalizations* are deduced from repeated observations of particular facts, whose knowledge cannot be acquired but from experience; and that our idea of universality and necessity is bound in the field of real or imaginable experience.

In the second volume, p. 671, Dr. Whewell, an-

* 'Philosophy of the Ind. Sci.' p. 44.

swering a review of his works in the 'Quarterly,' attributed to Sir John Herschel, describes an idea "a certain element derived from the *universal* mode of activity of the mind when apprehending *universal* truths." I will not fatigue the patience of the reader by a long discussion on this sentence, as obscure as the abstruse speculations so often met with in the writings of Plato, and from which Aristotle himself is not exempt. But I cannot let it pass without a remark.

According to Dr. Whewell's doctrine, repeated in every part of his book, an idea is a universal truth. Let us see, then, how the sentence will read with replacing the word *idea* by this equivalent. We have thus:—

"A universal truth is a certain element derived from the *universal* mode of activity of the mind when apprehending universal truths."

Which means, by eliminating the copulative and redundant elements,—

"A universal truth is derived from the mind apprehending universal truths."

Or, more simply,—

"A universal truth is derived from universal *truths.*"

And, in fine,—

"A universal truth is a universal truth."

This analysis is exact and rigorous: I shall offer no comment upon the sentence: I content myself with affirming that the same fallacious mode of argumenting can be followed up and decomposed, in this way, from chapter to chapter, throughout the whole of Dr. Whewell's 'Philosophy of the Inductive Sciences.'

Dr. Whewell pretends (pages 28 and 29) that his view is *not contrary* to, but *altogether different* from that of Locke; that Locke speaks of *the origin of our knowledge*, whilst he (Dr. Whewell) speaks of *its nature and composition.* But Locke never denied that there was an element of the mind in every idea, since a sensation cannot become an idea but by entering into the mind. Locke only denied that which Dr. Whewell affirms everywhere, viz., that there are "universal and necessary truths, or ideas,

existing *à priori* in the mind, and which cannot be learnt from experience." This is the learned Doctor's doctrine; and what he says in the above-quoted section either has no meaning at all, or is in the most palpable contradiction to his own views.

So fallacious is the character of Dr. Whewell's argumentation, forced upon him by his unfortunate theory, that he accumulates and brings in contact, in the same page, the most opposite views; sometimes using the word *ideas* when the construction requires the word *mind*, as when he says that "our *ideas* are engaged in collecting sensations" (p. 44); sometimes maintaining exactly the reverse of the simple truth, as when he adds that "perception of objects implies ideas;" the reality being that ideas imply perception of objects; which is admitted a few lines further, when it is said that "we cannot conceive *what* space, or time, or number *would be in our minds*, if we had never perceived any thing or things in space or time." (If we cannot conceive *à priori what* space or time *would be*, how can we call space and time *à priori ideas?*) Pages 43, 44,

and 45, vol. i., are full of these contradictions; they expose the painful perplexity of the author to defend his views; and how he is reduced to equivocal concessions, such as the following: "None of the terms which express the fundamental antithesis can be applied absolutely and exclusively; the absolute application of the antithesis, in any particular case, can never be a conclusive or immovable principle." Remarks like these are so desultory and evasive, and show such a want of compactness and solidity, that to prove the untenability of the system it is sufficient to quote against them Dr. Whewell's fundamental ground, to which I must always refer, viz., "that universal and necessary truths or ideas exist *à priori* in the human mind, and cannot be learnt from experience"!

§ XXI.

Amongst other discoveries, the result of the labours of the philosophers who have adopted the doctrines successively developed by Kant, Fichte, Shelling, and Hegel, stand on a prominent ground

those of Lorenz Oken, whose works have of late been, in part, translated by Mr. Alfred Tusk, and published under the patronage of the Ray Society. From the discoveries of this remarkable man (which he enumerates in the preface written by himself for the English edition) I take one, as an example, to test the value of the philosophy of the *à priori ideas*—that of the cranial homologies; which is thus given, in the words of Lorenz Oken himself, in the *Isis* of 1818 :*—

"In August, 1806, I made a journey over the Hartz. I slid down through the wood, on the south side; and straight, before me, at my feet, lay a most beautiful bleached skull of a hind. I picked it up, turned it round, regarded it intensely;—the thing was done. '*It is a vertebral column*,' struck me, as a flash of lightning, to the marrow and bone: and since that time the skull has been regarded as a vertebral column."

Now, however great was the merit of this discovery, which, according to Professor Owen, would,

* Quoted in the 'Athenæum' of October 2, 1847, p. 1021.

alone, have conferred immortality on the name of Oken; it is to be wondered how philosophers can have been deluded into the belief that it was an idea *à priori*, whilst the whole process of deductive argumentation is most evident in the *naïve* narration of the author himself.

First, he *sees* a bleached skull; then, he regards it intensely; and, now, he perceives that it is composed of parts. A man who had never seen a vertebra or a series of vertebræ, or even a common anatomist, could not have guessed a possible relation of similarity between this head and a vertebral column. But Lorenz Oken, a man of genius, a great *comparative* anatomist, who has spent part of his life in seeing and handling vertebræ, after seeing, picking up, turning round, and regarding intensely, something, which reminds him of another thing that he has very often seen before, *immediately* thinks that it is like a vertebral column, and concludes that all the heads he has seen, and which he could ever see, must be composed of parts whose type is the vertebra. All this is very natural as a pure process of induction

from facts previously observed. There is nothing *à priori* or mysterious in it; for, since the idea struck him only *after* he had picked up the skull and regarded it intensely, I cannot see how any argument could be drawn from this in favour of the doctrine, that great *generalizations* are necessary truths, *which cannot be learnt from experience.*" The wonder would have been that Lorenz Oken had discovered that the *head of the hind* was composed of vertebræ, without having seen it at all: then the doctrine of *à priori* ideas would be right.

But the case as it stands, and however little inclined I may be to speak lightly on so grave a subject, forcibly recals to my mind a classic epigram which illustrates so strikingly the ridicule that may be attached to a proposition which is exactly the reverse of the truth, that I venture to treat my readers with it who understand my native language:

L'autre jour un Romain s'en vint, fort affligé,
Raconter à Caton que la nuit précédente
Son soulier des souris avait été rongé,
Chose qui lui parut tout-à-fait effrayante?

Mon ami, dit Caton, reprenez vos esprits,
Cet accident, en soi, n'a rien d'épouvantable;
Mais si votre soulier eût rongé les souris,
Oh! c'eût été, sans doute, un prodige effroyable!*

---

* A friend of mine has sent me the following translation of this epigram, which I think will be acceptable to those of my readers who are unacquainted with the French language:—

One day came a Roman—breathless with fright,
Hasting to Cato, to tell him his shoe
By the mice had been eaten—quite eaten last night:
A direful portent!—pray what must he do?
"Cheer up, my good man," old Cato replied,
"The fact seems to me no way so terrible;
Had your shoe eat the mice, it can't be denied,
The thing would have been a portent most horrible!"

CHAPTER VI.

§ XXII. Interpretation of the word Idea, a source of misunderstanding amongst philosophers — Hume — Reid — Dugald Stewart against Locke, Hume, &c.—That all Ideas are Sensations — His example of an intuitive necessary truth examined and rejected.

§ XXII.

THE interpretation of the word idea has often been the source of misunderstanding amongst philosophers. Much has been written upon this, even by that great advocate of common sense, Dr. Reid, and I make bold to say, to no great purpose.* What difference can there be between "thought or operation of the mind in thinking" and "internal objects of thought which philosophers suppose"? All the criticism of Hume, Reid, Dugald Stewart, Dr. Whewell and others, on Locke's meaning attached to the word idea is superficial and obscure, and does little credit to these profound but often prolix philosophers. Locke uses the

* See 'Essays,' pp. 77, 78, &c.

word *idea* as the representation or graphic sign of anything about which the mind is occupied, or which forms an object of thought, whether this object is a perceived reality or a simple or complex abstraction. Certainly Locke never uses the word idea as having the distant meaning of the Pythagoreans and Plato, because he considers all ideas are mere representations, or abstractions, or thoughts. When it is admitted that ideas are the result of sensations, it is of no moment if we qualify an object of thought by either appellation of idea, thought, sensation, or any other general symbol.

To the doctrines of Locke, Hume, Berkeley, Condillac, and others, that all our ideas are sensations, and particularly to Dr. Hutchinson's assertion, "that all the ideas or materials of our reasoning are received by certain senses, internal or external; and that reasoning or intellect raises in us no new species of ideas, but only discerns the relations of those received"—Dugald Stewart objects the following argument, which would go in support of Dr. Whewell's views.

"It is surely an intuitive truth that the sensations, of which I am now conscious, and all those of which I retain any remembrance, belong to one and the same being, which I call myself. Here is an intuitive judgment involving the simple idea of personal identity."

This reasoning, however, only establishes that which can be judiciously contested by no one, the existence of a sentient faculty, or an intellect in man—in other words, a thinking principle, in the same time active and passive; passive when it receives impressions or sensations, active when it moves towards the objects of these impressions, or towards the impressions themselves: or, to use the energetic figure of Aristotle, when it acts *like a hand*—the hand being the organ of organs — to hold sensible objects of contemplation or their images. For intellect acts towards objects only after it has received impressions through the senses.*

* It is incontestably true that the senses are the first avenues of our knowledge, and that through them we become

What is the new species of idea raised by Dugald Stewart in the case of personal identity? His whole proposition may be reduced to this :—

I am conscious of actual and past sensations.

How can this EGO be of itself demonstrative of an intuitive truth? Hume answers this very well when he says: "When I turn my reflection on myself, I never can perceive this self without some one or more perceptions; nor can I ever perceive anything but these perceptions." There is no ground for supposing that the idea of personal identity is intuitive, if by this it be understood that it originates from a *pure* operation of the mind; for that very idea contains as its fundamental element *an objective self.* All the propositions based upon this argument by Dugald Stewart, viz. :—that the ideas of causation, of time, number, &c., are intuitive, must therefore be rejected. The speculations of physiologists, besides, far from giving any support to the existence of some primitive idea in the human mind, consider the powers of the

acquainted with external things. A. Sedgwick's *Discourse*, &c., p. 46.

mind dependent so much on sensation, that they describe volition and sensation as intimately connected, and under the mutual dependence of one another. Thus, says Baron Cuvier: "the two faculties of sensation and voluntary motion appear necessarily connected. Even the idea of voluntary motion contains in itself that of sensation, for we cannot conceive *volition* without desire, and unaccompanied by the sentiment of pleasure or pain." *

* G. Cuvier's 'Comparative Anatomy,' vol. i.

CHAPTER VII.

§ XXIII. That the position taken by the Author in the last chapters appears unassailable—That Dugald Stewart's *first occasions* are *first reports* of the senses.

§ XXIII.

THE position which I have taken in the preceding chapters appears to me unassailable. It is immaterial for the soundness of the arguments, whether our sensations are derived from outward objects, or from inward movements of the mind. Ideas cannot be formed without ourselves (or *trans*formed); since *sensations* are themselves reports of the senses to the mind. We acquire the knowledge of inward emotions, be it even the consciousness of our existence, or the consciousness of our consciousness, from experience only. Emotions play an objective part, even when we consider them within ourselves. In our judgment of our own faculties, comprising activity of mind or will, there is an element of the out-

ward world, since they stand in the light of an object in presence of the thinking faculty as subject; and, it may be added, that even in the contemplation of our own powers we form our judgment from a comparison with similar powers in others.

As to what Dugald Stewart says, that there are familiar notions which can neither be referred to sensation or reflection, as their *fountains* or *sources*, although the senses may furnish the *first occasions* on which they occur to the understanding*—I would ask how these familiar notions can be ascertained not to be simple sensations, when it is granted that they do not occur to the understanding before they have passed through the general channel of the senses? To unprejudiced thinkers, the introduction in the argument of the words *first occasions*, cannot be considered but as one of those subterfuges to which even philosophical minds are doomed unconsciously, in their infirmity, to have recourse to, in order to uphold by an artificial scaffolding an ill-constructed system. In order to prove the point, that ideas exist *à priori*

* 'Essays,' p. 107, third edition, Edinburgh.

in the mind, it must be shown that they existed *prior* to these *first occasions;* for, if this is not established, what can prevent us from adopting the most natural explanation, viz.—that these *first occasions* are in reality *first reports* of the senses?

CHAPTER VIII.

§ XXIV. German and English Schools towards the end of the last century, against Bacon and Locke—That the supporters of this Philosophy are pursuing a phantom—Pseudo-substantial substratum of the Ancients—Aristotle's phantasms or species, &c. — § XXV. Kant's Doctrine analysed — § XXVI. Coleridge's doctrine—§ XXVII. How imagination can be allured into these errors — Argument framed on the representations of an orange—Its fallacy.

§ XXIV.

ENLARGING upon some ideas of the ancient Greeks, a celebrated metaphysical school rose towards the end of the last century, at first in Germany, and soon afterwards in England, in opposition to the sweeping views of Lord Bacon and Locke, which I find forcibly resumed in the cutting sentence of W. Hazlitt, "that all ideas whatever are mere abstractions, and can be nothing else."* This school has implanted its deep roots in English metaphysics, and even in the literature of science. The supporters

* 'Essays,' new edition, p. 160.

of this philosophy are, however, pursuing a phantom, which constantly eludes their grasp. The *substratum* upon which they have raised their philosophical fabric is, in Kant's system, a supposed reality concealed under the abstraction of the general idea of *substance*. Some of these philosophers have spent much genius in making ideas to gravitate around this extraordinary scheme; but, although their labours have thrown a great light upon the mysteries of the sensible and the intelligible world, and may have opened the way to great and bold generalizations (which, no doubt, is to be attributed to their having proceeded by the synthetic method), up to this day the idea of a noumenon remains, in itself, just as it was (except as to the name) in the time of Aristotle and Plato, viz.: an unintelligible abstraction, if considered as an intermediary idea between that of divine essence and matter; or, a useless synonymic expression, if offered as an equivalent of the idea of Almighty himself.

The following extract will show the opinions of the ancients on this point. I do not think that

modern philosophers, of the school of Kant and Coleridge, have advanced a step beyond Aristotle, and written anything more clear or decisive on this pseudosubstantial substratum.

"Now, summarily recapitulating what has been said about the soul, we again say that the soul is, in a certain respect, all beings; for beings are either sensibles or intelligibles; and science is, in a certain respect, the objects of science; and sense, sensibles. But in what manner this takes place it is necessary to investigate. Science, therefore, and sense are divided into things; those which are in capacity into things which are in capacity, and those which are in energy into things which are in energy. But the sensitive and scientific powers of the soul are those things in capacity, viz.—the one is the object of science, but the other that which is sensible. It is necessary, however, that these powers should either be things themselves, or forms. But they are not the things themselves. For a stone is not the soul, but the form of the stone; hence the soul is, as it were, a hand; for the hand is the organ of organs; intellect is the form of forms; and sense is the form of

sensibles. Since, however, there is nothing besides sensible magnitudes separate; in sensible forms there are intelligibles, as well those which are predicated in ablation, and those which are the habits and passive qualities of sensibles; and, on this account, he who has no sensible perception of anything can neither learn nor understand. But when intellect contemplates, it is necessary that, at the same time, it should contemplate a certain phantasm; for phantasms are sensible objects, except that they are without matter. The phantasy, however, differs from affirmation and negation; for the true or the false is the connexion of mental conceptions."*

This was the theory of the Peripatetic school; and the Epicureans differed from the Peripatetics in this, that they considered the phantasms to be composed of an æthereal matter.

§ XXV.

I shall now introduce here a short analysis of the

* 'Aristotle on the Soul' ch. ix., from Thomas Taylor's translation.

development of these ancient ideas by the celebrated German philosopher from whom Dr. Whewell has taken the greater part of his views.

First, Kant premises, that the objects of which we take cognizance, through our senses, offer us the images or phenomena of real things, but maintains that these images or phenomena are not the things themselves; and that, although these things have a real existence, we know nothing of their intimate nature. These things, which form the *unknown* substratum of natural phenomena, he calls *noumena*, or collectively the *noumenon*.

"When we consider," says Kant, "objects of sense as mere phenomena, we hereby allow at the same time that they bottom upon a thing in itself, though we know it not, as to its internal nature or essence, but as to its phenomenon, that is, the way in which our senses are affected by this *unknown something*." *

Kant defends very warmly his system from the imputation of pure idealism, which was directed

* Prolegomena to 'Metaphysic,' p. 95.

against it by the school of Bacon and Locke, and even by the Sceptic school." He says:—

"Idealism consists in the assertion that there are none but thinking beings; all other things, which we believe we perceive by intuition, are nothing but representations in the thinking beings, to which, in fact, no object without these corresponds: whereas I say, that things as objects of our senses without us are given us, but we know nothing of what they may be in themselves, but their phenomena, that is, the representations which they occasion in us by affecting our senses: consequently, I certainly grant that there are bodies without us, that is, things which, though it is quite unknown to us what they are in themselves, we know by the representations which their influence on our sensitivity procures us, and to which we affix the denomination of a body, which word, therefore, signifies merely the phenomenon of that object which is unknown to us, but not the less real. Can this be termed idealism? It is the very contrary." *

* Prolegomena to 'Metaphysic,' p. 54.

And further:—

"The existence of the thing that appears is not destroyed, but it is shown that we cannot *cognise* at all by the senses how it is in itself."

"I leave," continues Kant, "the things which we represent to ourselves by sense their reality, and only limit our sensual intuition of these things to this, that they represent in no point, even not in the pure intuitions of space and time, anything more than merely phenomena of those things, but never their quality in themselves."

Then Kant again strongly insists that his transcendental idealism cannot be confounded "with the empirical idealism of Descartes, or with the *mystical and extravagant idealism* of Berkeley:" against which (he adds), "and other similar chimeras," his criticism "rather contains the proper antidote." But at the same time he very strenuously maintains that "in all substances the subject itself, that which remains after all the accidents or adjuncts (as predicates) are separated from it, consequently

* Prolegomena to 'Metaphysic,' p. 55.

that which is substantial itself, is unknown to us." *

"Our conceptions of substance, of power, of action, of reality, *and others*, are quite independent of experience, contain no phenomenon of sense, and seem in fact to refer to things in themselves—*noumena*. .....The conception of cause contains a rule, according to which *one state follows another necessarily;* but experience can only show us that one state of things often, and, not to say the most, commonly follows another, and therefore yields neither strict universality nor necessity.

"Hence the conceptions of the understanding seem to have too much sense and matter for the mere use of experience to exhaust all their determinations, and thus the understanding insensibly erects for itself, besides the house of experience, a much more extensive building, which it fills with nothing but creatures of thought, without once taking notice that it has lost itself, with its other-

* Prolegomena to 'Metaphysic,' p. 60.

wise right conceptions, beyond the bounds of their use." *

Kant proclaims the ideas of space and time apodictical and necessary, and considers them as mere forms of our sensitivity, by no means adhering to things in themselves, but which must precede all perception of real objects.†

From pure mathematics Kant descends to pure physics, and contends that there are universal principles of physics—that *substance* is permanent, and that all which happens is always previously determined by a cause, according to constant laws, &c.: finally, that there are actually universal laws of nature, which subsist totally *à priori*.‡ He concludes that "the principles of possible experience are at the same time universal laws of nature, which *can be cognised à priori*."§ And, although admitting the principle of Hume, that impressions precede ideas, Kant maintains that the real element of ideas

* Prolegomena to 'Metaphysic,' p. 97.

† *Ibid.*, pp. 45, 46.

‡ *Ibid.*, pp. 63, 64.

§ *Ibid.*, p. 81.

is not the impression, but that the idea exists primitively in the mind, and gives the shape or the form to the impression.

§ XXVI.

Let us now see how Coleridge proceeds to extract the same ideas from the deep and vivid flashes of his fecund imagination.

"Hast thou ever raised thy mind to the consideration of existence, in and by itself, as the mere act of existing?....

"It is!.... Whether a man, or a flower, or a grain of sand; without reference, in short, to this or to that particular mode of existence?.....

"If thou hast indeed attained to this, thou wilt have felt the presence of a mystery, which must have fixed thy spirit in awe and wonder.....

"Not to be, is impossible. To be, incomprehensible.....

"The power which evolved this idea of being—being in its essence, being limitless, comprehending its own limits in its dilatation, and condensing itself

into its own apparent bounds—how shall we name it? .... What is it? whence did it come?"

This is magnificent, as evoked from the simple perception of individual objects in the immeasurable whole, and from the relations of these objects with the all-embracing faculty of the human mind. But how is it that from the contemplation of individualities, singled out by the senses, and perceived as a part of a harmonious whole, Coleridge falls back, denies his own impressions, and refuses to recognise the very origin of his inspiration, *i. e.* the reality of the senses and the sensibles—his own perceptions of a man, a flower, a grain of sand, from which he has abstracted the general idea of existence? and why does he say, "The idea itself, what is it? whence did it come? In vain would we derive it from the organs of sense; for these supply only surfaces, undulations, phantoms: in vain from the instruments of sensations; for these furnish only the chaos, the shapeless element of sense"? *

* 'The Friend,' essay xi.

The inconsistency of these aspirations is too apparent: it is first premised that the mind takes cognisance of outward objects, and is in contact with them; then these objects are *immaterialized*, and transformed into a *pure idea*, entirely independent of the senses and of the objects themselves, which have in reality furnished the elements of the abstraction. This is very beautiful as poetry, but there is no truth in the reasoning—no more, and perhaps much less, than in the phantasm or the phantasy of Aristotle.

We cannot arrive at the idea of the supreme intellect, through a supposed substratum lying under the idea of substance, between the idea of the supreme will and that of matter; for such a substratum has not any other origin than the confused image of some *material* residue of the qualities of a real object. The fact which lies at the bottom of this fallacy is the impossibility of entirely erasing from the mind a received impression.

The following argument will show how easily imagination may be allured into errors of this kind.

§ XXVII.

"An inductive philosopher, says J. W. Semple,* declares that the representation of the orange is entirely framed by the impressions made upon the senses from without. Now, if this was the case, then (Kant remarks) by destroying the conception, *i. e.* abstracting colour, smell, weight, flavour, and *so on*, the whole representation ought to be abolished. ..... Let us try the experiment, at least abolish it in thought; and it is immediately observable, that the space it occupied will still remain; the vacant form of the annihilated body still presents itself; nor can I by any force of imagination obliterate this part of the perception."

Unfortunately for Kant's argument, it happens that, in the enumeration of the qualities to be destroyed, in thought, there is neither that of bulk or space; and it is represented that these very qualities or their equivalent, viz. the *vacant form*, will still remain in the mind. Now, we ask, if you abstract

* Preface to Kant's 'Metaphysic of Ethics,' p. 31.

also these qualities or the vacant form, what will remain? It might be pretended (although I think it would be a cavil) that the form and bulk are understood in the "*so on*" or the other unmentioned qualities. This, then, would come to asserting that the form and the bulk are not effaced after having been abstracted; or at least that they cannot be abstracted, like other qualities, and remain *perforce* in the mind. But if the latter is the case, it does not prove that the ideas of form and bulk originate "from *à priori* action of the mind," because the argument itself assumes that the orange has first been offered to the perception of the senses: it only shows that our will does not possess the power of entirely erasing from the mind an object with which it has been in contact.

I do not make a doubt that the difficulty we find in dismissing the ideas of bulk, figure, and other essential qualities, in comparison with the relative facility of abandoning the ideas of accidental qualities (such as sound, smell, taste, colour), is in reality the foundation of this fallacy.

CHAPTER IX.

§ XXVIII. Real character of the Physical Philosophy of Kant—Monads of Leibnitz—Pure idea of Substance—The Noumenon—Kant's ground in its simplest form—His contradictions—How he tries to rectify them—His idea of a boundary between phenomena and noumena—Indistinctness of this line—Judgment on his System—V. Cousin and De Rémusat.—§ XXIX. That Dr. Whewell has left aside the idea of the Noumenon—His endeavours to establish the same antithesis between necessary and experiential Truths as between Thoughts and Things—That his Doctrine resolves itself into pure Spiritualism.

§ XXVIII.

THE real character of the physical philosophy of Kant is an ineffectual attempt at *substantialising* the monads of Leibnitz;* he tried to fix upon the intel-

* I cannot resist quoting here the following beautiful and very instructive passage on the origin of Leibnitz's Monads, as explained by the very interesting book of Mr. J. Mackie :—

"Whilst residing at Mentz, Leibnitz undertook, at the request of his patron, Baron Von Boineburg, to refute the Cartesian doctrine, that Matter and Spirit were two different substances, the essence of the first consisting in extension, and that of the second in thought. This was done with the design

ligible monad what may be called, in his own phraseology, the *pure idea* of substance, that is, a supposed

to prove the possibility, if not the actual truth, of the theological dogmas of the real presence and transubstantiation; and thereby promote an union between the Lutheran and Catholic churches. Leibnitz accordingly discarded the atoms of Descartes as the primary elements of bodies; or rather, he attributed to them a spiritual nature. Thus in 1671 he wrote to Anthony Arnaud 'that the essence of matter does not consist in extension; that even the substance of matter is without extension, and not subject to the limitation of space.'

"But Leibnitz was then far from having attained the view of Substance which afterwards appeared to him satisfactory and final.....as he advanced in the study....he considered the *supersensuous substance* as the principle of motion in the material world, and called it *power*. This moving power was original and really existing, while the things moved by it had a merely phenomenal or apparent existence. In these views of Leibnitz, the idea of Substance was combined with that of Motion, but afterwards he relieved the first idea of this limitation. Forming a more purely abstract notion of Substance, he pronounced it to be energy, in general uncreated, indestructible, unlimited, whose activity is in itself, and whose qualities are deducible from the very nature of its own idea. But individualized, it exists in the form of souls or monads. Substance, in general, then is God, the original monad; and from him are derived all individual substances, which together constitute the created universe. These particular monads independent of Time and Space, which are mere relations of simultaneous and successive existences, comprise

matter deprived of sensible qualities, but which was nevertheless the real ground of the sensible. In this there was nothing very new, for Leibnitz's monads were but a modernised reproduction of the universals of the Pythagorean and Platonic schools, according to which the objects of senses were only forms, images, or shadows of universal and eternal natures or ideas. It was from these universals that Aristotle derived his phantasms or species.

Kant tried to place his physical ground between

whatever is real and substantial in nature. All else is but appearance, phenomenon, 'a regulated dream.' Each of the monads is placed by God in relations to the universe. Each is perceiving and striving to accomplish, by virtue of a pre-established harmony of things, the aims of the infinite whole. The different monads, therefore, may be said to be so many mirrors, reflecting the totality of things.....Each monad may be represented as an eye, looking at the whole creation from its particular point of view. In this different degree of perfection, or different mode of reflecting the infinite, consists the individuality of the different monads."

That which distinguishes the spirit of man from the souls of the lower animals, is its knowledge of necessary and universal truths. These make science possible, and elevate man to the knowledge of himself and of God.—From Leibnitz's *Life*, by John Mackie, 1845.

the ether of the atomists and the pure spiritualism of Berkeley, in order to avoid the scepticism of Hume, which was his *bugbear.** He therefore invented the *noumenon*, that is to say,—*a substance which is not a substance;* and this he placed between the supreme intellect and the sensible world.

In its simplest form Kant's ground could be reduced to this:—

Axiomatic truths exist originally in our mind and are not acquired by experience, because they form the essence of the noumenon, and the noumenon is inaccessible to our senses, although it is accessible to our mind.

But on this point Kant is in a perpetual contradiction with himself, for he contends and insists that

* After having written this, I remarked the following judgment on Kant, in Mr. Cousin's 'Lessons,' (p. 18). I reproduce it here for the sake of putting in parallel two independent opinions, which, if they are well examined, will be found to be nearly similar; leaving entirely to my renowned countryman the priority which belongs to him.

"Tout l'effort de Kant est de placer la philosophie entre l'ancien dogmatisme et le sensualisme de Locke et de Condillac, à l'abri des attaques du scepticisme de Hume."

"the substantial (or noumenon) never can be *thought* of by *our understanding*, how deep soever it may penetrate, *and even if all nature were unveiled to it!*"*

To get rid of these contradictions (often repeated in his long and very diffuse dissertations), and which Kant very well perceives, he ingeniously imagines that, *in our reason*, both phenomena and noumena are comprised together, and then he says:—

"The question is, how does reason proceed, to bound the understanding relative to both fields? Experience does not bound itself . . . . that which limits it, is the field of the pure beings of the understanding (noumenon). This, so far as the nature of these beings is concerned, is an empty space for us. . . . . But as a *boundary* itself is *something positive* . . . it is *a real positive cognition*, which reason acquires by enlarging itself to this boundary, yet so as not to seek to pass it."

But what solidity could we attribute to a philosophical system built upon the indistinct line

* Prolegomena to 'Metaphysic,' p. 125.

† *Ibid.*, pp. 169, 170.

thus traced between the *absolutely unknown* field of the noumenon and Kant's phantasmatic world of phenomena; and how could the positive knowledge of universal and necessary truths rest upon such an undefined notion? These are difficulties to which it would be impossible to give a satisfactory answer.

All that can be said of this system is, that it is ingenious and poetical (some might call it profound), and may have a great value with persons who look only at *the mystical* of things; but severe thinkers will perhaps opine, that sound arguments cannot be replaced by daring metaphors. As for myself, I cannot absolve Kant's doctrine of its contradictions; and, on this account, and with due reserve and respect for his admirable psychological and moral works, I quite agree with M. Victor Cousin's judgment, that nihilism is the only philosophy which could be deduced from the '*Critic of pure reason;*' and I agree also with M. De Rémusat, when he says—"La philosophie de Kant est en-deça de la raison humaine." *

* 'De la Philosophie Allemande,' &c., p. 206.

§ XXIX.

It is but justice to Dr. Whewell to say that he felt the inefficacy of so vague and so indefinite a ground. He, therefore, put aside the idea of the noumenon and considered phenomena as resting simply upon a *permanent* substance. But then, as he had no intermediary line to fix the basis of necessary truths upon, he was in the alternative, either of entirely rejecting the idealism of the Kantian philosophy, or of placing the ground of universal and necessary truths in the human mind itself: he adopted this last view.

In his system the fundamental ideas, ungenerated by experience, embrace such a vast field, that one cannot possibly see what part of knowledge remains to be conveyed to us by the senses. The *à priori* ideas enumerated, page 80, are the following :—space, time, number, force, matter, cause, externality of objects, media of objects, polarity, chemical affinity, substance, symmetry, resemblance, natural

affinity, assimilation, irritability, final cause, historical causation.

Gravitation was left in the first edition as a matter of doubt, but in the Essay III, published since, the author *declaring* that all matter is heavy, this gives to gravitation also the character of a universal and necessary truth.* So that it appears that the only contingent (now called experiential) truths, that is, truths which do not exist *à priori* in the mind are those whose character of permanency is not yet sufficiently fixed for them to be classed amongst necessary truths. Thus, that sugar and salt will dissolve in water—that plants cannot live without light—that all the animals which chew the cud have the divided hoof—that water expands when it crystallizes—these (and they are the only given examples!) are contingent or experiential truths —that is, truths which are not known *à priori*, but

* I must remark here that I cannot admit that gravitation is essential to matter—which Newton himself did not assert in his 'Principia.'—I shall return to this subject in my second Essay.

may be acquired through the senses, and this only because the contrary of these truths (a very questionable assertion) is not demonstrated to be impossible! *

It is to be remarked, however, that Dr. Whewell says—"Experiential truths are those that we know by experience only; and, that we know in this way, all that we do know in chemistry, physiology, and the material sciences in general. . . . . We may take elementary astronomical truths as the most familiar examples of experiential truth in the domain of sciences." †

Thus the learned Doctor pursues his system in

* I should think that as often as you put a lump of sugar in a glass of water, it will make a glass of *eau sucrée*, and that since the origin of sugar the case has been so, and will always be so as long as sugar is made; and that a lump of salt will always dissolve in a like manner. These are universal and necessary truths of their kind. It appears to me that "the constancy of these relations (to use the language of Hume) forms the very essence of necessity, and that we have no other idea of it".....whatever Dr. Brown may have said to the contrary.—See Hume, Edinb. ed. 1846, vol. iv., p. 112.

† Vol. i., p. 20.

the attempts to establish the same antithesis between necessary and experiential truths, as he established between thoughts and things; but he fails from the same reasons as I have given in § xv.

Necessary truths are, in his view, the equivalent of thoughts; experiential truths the equivalent of things; and both exist independent of each other, or forming an antithesis. But we have seen that things, being independent of thoughts, do not make thoughts independent of things; and, for the same reason, experiential truths being independent of necessary truths, do not make necessary truths independent of experiential truths; or, in more intelligible language (since necessary truths are ideas, and experiential truths are facts) facts being independent of ideas do not make ideas independent of facts. It is plain, in fine, that in the same manner as facts, or sensations, are the basis of ideas, experiential truths are the basis of necessary truths. But, as Dr. Whewell maintains that necessary truths exist *à priori* in the mind, and cannot be acquired from experience, it

follows that the only general conclusion which can be deduced from his doctrine, is, that there are not, in reality, two co-ordinate elements of our knowledge; but only one, the *à priori* element; and that, consequently, his doctrine resolves itself into mere idealism, nearly similar to that of Father Malebranche; and is only a scientific version, arranged for our time, of the universals, or eternal ideas, of the Platonic school.* This doctrine, therefore, is making philosophy retreat two thousand years backwards. But it has, upon the Platonic scheme, the great disadvantage of being in opposition to the realities and knowledge progressively evolved by the human mind during the last twenty centuries—an opposition so much more noticeable that the talented Doctor has embodied in his doctrine the most correct results of inductive sciences, of which he is himself a perfect master and leading promoter; marking

* I think I am so much the more justified in this appreciation of Dr. Whewell's philosophy, that the reproach of idealism was applied even to the doctrine of Kant by my distinguished countryman, M. C. De Rémusat, in his introduction on the 'Doctrines of German Philosophy,' p. xviii.

thus with the stamp of his profound learning and graphic eloquence the faded and almost forgotten remains of a worn-out, long decayed, and unrestorable system.

CHAPTER X.

§ XXX. Fichte — His Spiritualism — His Doctrine nearly allied to that of Berkeley—§ XXXI. Its fallacy on Sounds and Colours—Reality and entity of outward objects—§ XXXII. The author's interpretation of the *Ego* and the *Non-ego*—§ XXXIII. On the *oneness* of the idea of Perception-of-matter — Axiom-makers — Perception, what it implies—Strong argument against the Perception-of-matter Philosophers.

§ XXX.

FICHTE appears also to have erased from his philosophy the inconsistency of a pseudo-substantial noumenon; maintaining that "there is no groundless and arbitrary medium between the true and essential nature of *divine life* and its manifestations." * His doctrine is about the same as that of Mallebranche, and comes very nearly to that of Berkeley; viz., that we have no evidence whatever of the real existence of the material world; a view adopted by many English and German philosophers of this day,

* Fichte on the 'Nature of the Scholar,' p. 136.

59562

and according to which "the whole of the material world is not what it appears to the uncultivated mind, but can only be considered as the manifestation of a divine idea concealed behind natural appearances." *

We cannot pretend, it is said, "that anything exists without, at all like the impressions of sounds and colours within." † Whence it is argued that sensations being different from the objects which produce them, we have no proof whatever that they have the material existence which is attributed to them by our senses; and that it only remains, therefore, to consider them as manifestations of the divine idea itself, and not real things distinct from it.

Now, to show the error of this, it is sufficient to analyse the facts of sensation.

§ XXXI.

First it must be allowed that it is certainly not to the rays of light that we give the name of colour;

* Fichte on the 'Nature of the Scholar,' p. 124.

† See 'Tait's Edinburgh Magazine' — Review of Mr. Morrel's 'Philosophy,' vol. xiv., p. 698.

nor to the pulsations of air that we give the name of sound; because the great mass of men do not know that colour is composed of rays, sound of pulsations; since they would not understand you if you were to say to them, I have seen a ray of green—I have heard an aërial pulsation. But reason, science, experience, and cultivated common sense inform us that colour is produced by the contact or action of *material* light coming from an object to our eyes; that sound is produced by the vibration of the air, acted upon by an object in rapid motion. We know these objects not only from one impression made upon one of our organs, but from many impressions; and from judgments established upon them by *our own* mind, and by other minds, which all invite us to attribute to the same objects a character of individuality and of entity which they possess in reality, independently of our seeing and hearing them;*

* "C'est, en effet, une loi *à priori* de la pensée et la plus universelle de toutes, non pas que les choses sont pensées comme elles sont pensées, mais qu'elles sont pensées comme

which they possessed before we were born into the world; which they will retain when we shall be unable to see and hear any more; and which they would still possess, if the whole of the human race, together with the whole of the organized beings on this earth, should disappear and be annihilated by some great natural catastrophe, which we can conceive as possible.

It is to the collection of these individual and special objects of our sensations that we give the name of material world. To deny the real existence of the material world, therefore, is to deny the real existence of that without which we could never have had any sensation at all. That the material world is a manifestation of a *divine idea* does not imply that the material world has no real existence; because the organic world is not the condition of existence of the inorganic world, although the inorganic is the condition of existence of the organic.

elles sont."—(*De la Philosophie Allemande*, par C. De Rémusat, p. xxi.)

§ XXXII.

From the considerations above, I interpret the *ego* as an equivalent of the thinking faculty in man, and the *non-ego* as representing the objective existence of the outward world in relation to man. And it is evident to me that the two conceptions of the *ego* and *non-ego* are only indissoluble inasmuch as the *ego* (or thinking man) cannot exist without the *non-ego* (or outward world). But it is against all historical and geological facts, as well as against the plainest rules of common sense, to pretend that the *non-ego*, or outward world, could not exist, or did not exist, without the *ego*, or man, or an organic nature.

§ XXXIII.

It is from not perceiving this, that philosophers maintain the oneness of the idea of *perception-of-matter*.

"No power of the mind," says a reviewer of Thomas Reid's works, "can divide into two facts, or two existences, or two thoughts, that one pro-

minent fact, which stands forth in its integrity as the *perception-of-matter*." *

The very form in which this is said shows that there is no truth in it; because when a writer cannot find a solid argument in support of his opinion, he inevitably forces the view upon himself by arranging it into an axiomatic form; and then, in order to fasten the axiom of his creation on the mind of his readers as strongly as he has riveted it on his own mind, he produces it as an incontrovertible dogma. Superficial readers of course will follow him, because they cannot stand against the tyrannical expression "no power of the mind"! but independent thinking spirits will not take the yoke; and, after analysing the assuming phrase, they will find that it is only the impossibility of enunciating *proofs* which has forced on the writer the form of a violent asseveration.

Perception implies a mind on one side, an outward world on the other side, and senses between the two. Can the writer alluded to prove that the

* 'Blackwood's Magazine,' p. 255, August, 1847.

outward world was not a reality before he could himself have the perception of its existence, and that the outward world will be annihilated when this philosopher's perception dies? and can he prove that the solid crust of the earth was not created before man could stretch down his foot to stand erect upon it? * Surely he could not do this without depriving well understood expressions of their generally adopted acceptation, or cavilling upon the real meaning of words.

* Let any Hegelian philosopher answer this argument.

CHAPTER XI.

§ XXXIV. Disputes on the meaning of words—Philosophers in contradiction with themselves—Berkeley—Denies the existence of the material world—Misinterpreted by Dr. J. S. Mill—Attacked by Kant—§ XXXV. Berkeley's argument put in a strong light—That he has inclosed himself in a vicious circle—His argument is superficial—§ XXXVI. How can the problem of the materiality of Matter be solved?—§ XXXVII. How Berkeley puts himself in contradiction with his Doctrine, and changes his ground—That the material world is the designed object of the intellectual—That the inorganic world has an existence independent from the organic.

§ XXXIV.

It has been long observed that most of the discussions which take place amongst philosophers, and principally metaphysicians, are merely disputes on words, and only happen because they do not understand each other's meaning; and this will be the most readily believed when it is remarked, that it even frequently happens that authors of philosophical systems do not explain to themselves the real signification of their own expressions; and put

themselves in direct contradiction with their own views, without even perceiving it.

Such appears to be the fact in the case of Berkeley's scheme. He denies the independent existence of an external world, as it will clearly be seen from the following quotation, which could be supported by many other similar passages of his works:—

"That neither our thoughts, nor passions, nor ideas, formed by imagination, exist without the mind, is what everybody will allow; and it seems no less evident, that the various sensations or ideas imprinted on the sense, however blended or combined (that is, whatever object they compose), cannot exist otherwise than in a mind perceiving them. I think an intuitive knowledge may be obtained of this by any one who shall attend to what is meant by the term *exist*, when applied to sensible things. The table I write on, I say, *exists*. That is, I see and feel it; and if I were out of my study, I should say it *existed*—meaning that if I was in my study I might perceive it, or that some other spirit actually does perceive it. There is an odour—that is, it was

smelled ; there was a sound—that is, it was heard ; a colour or figure—and it was perceived by sight or touch. That is all I can understand by these and the like expressions ; for, as to what is said of the *absolute existence* of unthinking things, without any relation to their being perceived, that seems *perfectly* unintelligible. Their *esse* is *percipi ; nor is it possible they should have any existence out of the minds which perceive them.*"

It is, therefore, with perfect justice that Berkeley has been interpreted by Reid, D. Stewart, Dr. Brown, and others, as having entirely denied the real existence of matter ; and Dr. J. S. Mill lays himself open to the reproach of misinterpretation, when he accuses these philosophers of want of profundity, for not having comprehended the distinction between the noumenon and the phenomenon. So far from his having admitted the existence of a noumenon, Berkeley, as we have shown before, was attacked and ridiculed by Kant precisely on account of his pure spiritualism, and on his non-admitting a substantial ground of phenomena, or a noumenon.

§ XXXV.

To show Berkeley's argument in a stronger light, I think it may be enunciated thus:—

We receive, through one or several senses (let it be touch and sight), the impression of an external object; that impression produces a sensation, which determines in the mind a particular idea: let it be a pebble; it is seen and felt. Now, what is it that we call a pebble? It is the idea determined by the sensation; which sensation has been produced by the impression; which impression has been the result of the action, or contact between our senses and the object which we have called a pebble. As it is simply through the testimony of our senses that we know that pebble, and as it is this very testimony that we recall to our memory by the expression, "this pebble"—Berkeley says that we cannot pretend that the pebble is anything but an impression, and has any existence out of our mind.

To this argument, which I have made as strong

as I could, in favour of Berkeley's scheme, I will now oppose the following remarks:—

There are two conditions which are indispensable to the formation of the idea of the pebble—first, our senses; secondly, the pebble; and this is premised in Berkeley's argument, since it is comprised in the pronoun *I* and in the word *table*. But the formation of *the idea* is not an absolute necessity. Our senses and the pebble (or the table) existed separately before they became in contact, and they might have never become in contact. Suppose that no hand has ever touched, no eye ever seen, a particular stone; and that no one will ever see or touch that same stone; suppose it lies one hundred thousand feet deep under the surface of the earth, or in the centre of the moon; will the existence of this stone be less real? No one can say this.

The existence of a particular stone is a necessary condition of our having the idea of that stone; but our not having the idea of the stone is not a proof of its non-existence. The stone may exist without our having possibly any idea of it. The argument of

Berkeley goes only to show, that the stone *which we have seen* does not exist without our having seen it, which is a truism.

This reasoning may be applied to the whole of the impressions produced on our senses by the objects of the outward world, and shows that Berkeley has inclosed himself in a vicious circle. His argument, besides, is superficial, and does not reach the substance of the question.*

§ XXXVI.

If we want to know the real nature of a stone, we must examine the stone. We must look for the solution of the real existence of matter in matter itself. We must divide, calcinate, dissolve, analyse, and reduce the stone to its simplest elements. We must examine these elements until we arrive at the smallest appreciable and imaginable division, and then consider what may

* I think I may venture to say that Berkeley's argument is identical with the doctrine of Schelling and Hegel.

be the nature of this ultimate fragment or atom. Then, only, can experience and reasoning stop, and the problem of the real existence of matter be solved.

Thus has the question of the *materiality of matter* been considered by the Hindoos and the Grecian philosophers, and, after them, by Boscovich, Dr. Daubeny, Mr. Faraday, and others; and it will be my object to investigate it in the same manner in another part of this book. The solution of this problem falls entirely under the dominion of our senses and reasoning faculties; we cannot go further than this; and Berkeley's error consists in the vain attempt to discover this solution beyond the limits of our own powers.

§ XXXVII.

The circumstance which has occasioned different interpretations of Berkeley's doctrine, and given rise to various opinions on his real views, is, that, in order to answer the objections which were raised against him, he produced such explanations that, without

perceiving it, he puts himself in contradiction with what he had advanced before. This will be seen by the following passage:—

"I am of a vulgar cast, simple enough to believe my senses, and leave things as I find them. It is my opinion, that real things are those very things I see, and feel, and perceive by my senses; that a thing should really be perceived by my senses and at the same time not really exist, is to me a plain contradiction. When I deny sensible things an existence out of the mind, I do not mean my mind, in particular, but all minds. Now, it is plain they have an existence exterior to my mind, since I find them, by experience, to be independent of it. *There is, therefore,* some other mind wherein they exist during the intervals between the times of my perceiving them; as likewise they did before my birth, and would do after my annihilation. And, at the same time, it is true with regard to all finite created spirits; it necessarily follows, that there is an omnipotent eternal mind which knows and comprehends all things, and exhibits them to our view in such a manner,

and according to such rules, as he himself hath ordered, and are by us termed the laws of nature."

Here Berkeley has evidently changed the ground of the question. The table is no more a simple impression, a perception, and finally an idea, as it was in the first quotation. But the absolute maxim, *esse* is *percipi*, is virtually abandoned, the objective existence of the material world is fully acknowledged as a reality; and on a parallel line to this reality, an omnipotent eternal mind is assumed as the intelligent ruler of nature. I say *assumed*, because there is no connexion between the two parts of Berkeley's argument, except the connexion which he has forced on his own mind by using the copula, "*there is, therefore,*" which he was not authorized to do by the shape of the argument itself, the propositions being two independent ones. But what I want only to establish by the preceding remarks is, that Berkeley himself was obliged to give up his doctrine of the *oneness of the idea of the perception-of-matter*, at least, inasmuch as it refers to the human mind.

That the material world is the designed object of the intellectual world is a self-evident truth. But that the inorganic world has an existence independent of the organic is no less self-evident; besides it being possibly demonstrable, as a matter of fact, that, at least on this earth, the inorganic existed before the organic; and that, therefore, the former has, historically, as well as naturally, an independent existence.

CHAPTER XII.

§ XXXVIII. The Kantian Doctrines contrary to the evidence of our senses and reason—Sensations precede Ideas—Soul of Man—At first a blank sheet prepared by the Divine hand—Instincts, desires, and affections cannot be assimilated to an intuitive knowledge of great generalizations—§ XXXIX. A short theory of the Formation of Ideas.

§ XXXVIII.

THE Kantian doctrine rests on the supposition that universal and necessary truths exist in the human mind, independently of its receiving, through the senses, the impressions of the outward world, and that these impressions are only *occasions* of the ideas; or, to use the expressions of J. W. Semple, Kant's English translator and commentator, this doctrine rests upon the predicate that "what truth, soever, is necessary and of universal extent, is *derived to the mind* from its own operation, and does not rest on observation and experience."

This is no better than an unwarranted denegation

of the direct evidence of our senses, and the testimony of our reason. For how can it be pretended that a truth is not *derived to the mind* from experience, when it is incontestable and *uncontested;* that the facts which relate to this truth are, from the first instant of the birth of the human individual, introduced successively into his mind, up to the time when he can form the idea that they belong to a universal and necessary truth?

Sensations precede ideas.

"All the perceptions of the human understanding," says Hume, "resolve themselves into impressions and ideas. . . . . Ideas and impressions appear always to correspond to each other; a convincing proof that the one are the cause of the other; and the priority of the impressions is an equal proof that our impressions are the causes of our ideas, not our ideas of our impressions."* What Hume says of *impressions,* I would say of *sensations;* because the expression comprehends more distinctly our emotions and feelings as objects.

* 'Hume on the Understanding,' Edinb. ed. 1825, p. 15.

The soul of man is a blank sheet, prepared by the divine hand to receive the images of things.

It develops and expands by entering into contact with external nature.

No operation can be traced in the mind before it has received the light or impress of outward objects.

No doubt the germs of instincts, desires, and affections exist originally in the undeveloped mind; for, as Professor Sedgwick justly remarks: "If the senses be the first link connecting the soul with the world without, it is equally certain that they are no sooner excited, than affections begin to show themselves;"* but it is against the dictates of common sense and unsophisticated reason, to assimilate the unconscious, and almost imperceptible, initiative of these instincts, to an intuitive knowledge of those great generalizations, the nature of which, inaccessible to the immense majority of mankind, excites a conflict of opinions amongst the most gifted and cultivated minds. Nor can it be believed, that any

* Professor Sedgwick's 'Discourse on the Studies of the University,' p. 54.

mental operation taking place amongst these various instincts, to the exclusion of the outward world, could give us the knowledge of general or universal laws, when *it is the special and necessary object of these same instincts to invite and to command our acquaintance with the individual facts whose assemblages and relations compose these laws.*

§ XXXIX.

Our senses form the natural link between two parallel realities, viz., our mind and the external world.

A sensation has its first roots in the external world, its second roots in the mind.

To say that ideas are the active element of our mind, is simply to deny the special functions of our senses, in order to assume that the external world exists in our mind independently of the sensation.

The senses are, at first, passive in relation to the external world, and the mind passive in relation to the senses.

But in the same manner as a photographic plate

appropriates the image of an object, the mind possesses the power of appropriating sensations.

An appropriated sensation is what we call an idea.

After having received ideas, or, which is the same, appropriated sensations, the mind becomes active towards the sensations or the ideas themselves, and combines, arranges, co-ordinates, divides, multiplies, and classes them; and through them re-acts upon the senses, and these upon the outward world.

This is a short but I think a clear and natural theory of the formation of ideas.

CHAPTER XIII.

§ XL. Origin of our ideas—§ XLI. That a truth is true in itself—What are universal truths—That there is no difference between truths—Truism about necessary truths—That there are not two opposite sorts of truths—That all truths are experiential truths—No antithesis between truths—§ XLII. All truths are founded on facts—Classes of individual objects—Motions of objects—Natural laws.

§ XL.

As all our ideas are derived from sensations, either directly or from arrangements and classifications, operated by the powers of the mind amongst the sensations or the ideas themselves, it follows that all our knowledge is founded on experience, and that it is from experience only that we learn truths.

§ XLI.

A truth is true in itself—it is true independently of ourselves or of our ideas of it.

A universal truth was a truth before we came into existence; it will be a truth after we are gone; it

would have been a truth if we had never come into the world.

Inorganic truths were truths before the terrestrial organic world had any existence.

There is no specific difference between truths, for a truth cannot be otherwise than true; a truth cannot be the negation of a truth, or its own negation.

When you say that a *necessary truth* is a truth *the contrary of which is impossible*, it is the same as if you were saying that there are truths which are not untruths, and this is a tautological truism.

A truth cannot be otherwise than true; therefore how could there be two opposite sorts of truths?

All truths are experiential truths; and if a truth is found to be truth by experience, how could it be said that the contrary of that truth is possible?

If you show that the contrary of a truth is possible, it is no more a truth.

There cannot be therefore any antithesis between necessary and experiential truths.

That a lunar month contains 30 days is a compound truth, the result of other physico-mathematical

truths. If the moon's month contained 40 days instead of 30, it would not be the opposite of the actual truth; it would only be another truth. When it is said that the astronomical truths which express the motions and periods of the sun, moon, and stars might have been otherwise,* it is either a rash assumption, or it cannot mean anything, but that there might have been other astronomical truths.

What is could not have been otherwise than as it is, in the actual system of nature. If we do not see why it is so, it is not because it could have been otherwise; but it is either because the human mind has not yet attained a sufficient degree of culture; or on account of the limited power of our organization.

Philosophers have strayed out of the natural path when they have imagined an antithesis between truths. A truth is *that which is.* The antithesis of *that which is* would be *that which is not;* if *that which is* is a truth, *that which is not* cannot be a truth, but is either a simple negation of a truth, or a phrase which has no meaning at all.

* Dr. Whewell, 'Ind. Sc.' vol. i. p. 19.

§ XLII.

All truths being founded on facts, facts being multifarious, and the knowledge of facts constituting all our real knowledge, the powers of our minds are continually applied to discriminate between facts, to collect together those which are alike, to recognise their natural relations, and the order according to which they succeed to each other.

Thus our ideas of plants, animals, stones, &c. have been formed.

On the one hand, the great assemblage of individual beings or objects is arranged, according to certain characters of resemblance and dissimilarity, into classes, families, genera, and species, and forms what is called the natural sciences.

On the other hand, when we observe things in their motions—when we remark, for instance, that—

"A balloon rises in the air;

"That a piece of wood floats on the surface of water;

"That a stone falls into an abyss:"

At the first sight the balloon's rising appears exactly the reverse of the stone's falling. But science, or cultivated common sense, teaches us that if the balloon rises, it is only because the air *falls under* the balloon; in the same manner as water falls under a piece of wood, and a stone falls under the air. Hence these three facts, and many others similar, are classed together in a common formula, to which we give the name of law of gravitation. Thus were formed the other natural laws or formulæ, including the various branches of mathematical, physical, and chemical sciences.

CHAPTER XIV.

§ XLIII. General Conclusions—Origin of the idea of Causation—Dr. Brown—Hume—In what they agree—Examination of Dr. Brown's opposition to Hume's theory that the idea of power is derived from memory, and the idea of necessity from experience—Inconsistency of Dr. Brown's disquisition—§ XLIV. Why M. A. Comte has thought that the word *cause* could be dispensed with in scientific language—§ XLV. M. Comte's error in rejecting all inquiries after causes—Natural ground of the idea of God—The idea of causation to be pursued in the historical series of natural events.

§ XLIII.

"The world," says Dr. Brown, "is a mighty system of changes. The great masses, the atoms which compose them—whatever is destitute of organization, as much as the organized beings that are vegetating or living or dying—all are subjects and exhibitors of unceasing variety. . . . . The great character of all these changes is the regularity that enables us to accommodate our plans, with perfect foresight, to

circumstances which may not yet have begun to exist. . . . . To the preservation of life itself the faith is essential, which converts the passing sequences of phenomena into signs of future corresponding sequences." *

What is the origin of this faith?

It seems, from the enunciation above, that it has its first source in the observation of the course of nature, or in our experience. We see that these changes occur, according to a regular order; that events do not succeed each other at random; but that every fact is always preceded by its appropriate antecedent fact; and, *vice versâ*, that every antecedent fact is always followed by its appropriate consequent fact. Hence our idea of cause and effect. Hume forcibly establishes this in his 'Essay on the Human Understanding.'

"We remember," he says, "to have seen that species of object we call *flame*, and to have felt that species of sensation we call *heat;* we likewise call

* Thomas Brown's 'Inquiry into the Relation of Cause and Effect.' 4th Edition, London, 1835, p. 7.

to mind their constant conjunction in all past instances: without further ceremony, we call the one *cause* and the other *effect.*" *

Cause is the anterior fact; Effect is the fact which follows; and the idea of necessity has no other origin than the observation of the constant repetition of the same relation between antecedent and consequent facts.†

Dr. Brown fully admits, with Hume, that the notion of *cause*, or its equivalent, *power*, is nothing more than our belief of the uniformity of an invariable antecedent.‡ But, in opposition to Hume, he

* 'Hume on the Understanding,' p. 121. Edinb. ed., 1825.

† "Either we have no idea of necessity, or necessity is nothing but that determination of the thought to pass from causes to effects, and from effects to causes, according to their experienced union." *Ibid.*, p. 220.

‡ "Power is only a shorter synonymous expression of *invariableness of antecedence*, and the invariableness is not anything separable or distinguishable from antecedents and consequents themselves. In all the changes which the substances in nature undergo, the substances themselves alone have any real existence; and what we term Power, in the anticipation of any future change, is itself the antecedent substance, or it is nothing." Brown, p. 189.

denies that that idea is derived from memory, and the idea of necessity from repeated observations or experience. He contends that the idea of cause originates in the mind itself; "that it is an original feeling, intuitive, and immediate on the perception of change." *

But, although Dr. Brown has written 130 long pages to state and develope these objections, he has not, in the least, shaken the plausibility of Hume's deductions; and it is no difficult task to show, from the very expressions used by him, that he has put himself in flagrant contradiction with his own doctrine.

First. If the idea of cause has its elements in the mind itself, how is it that Dr. Brown premises, in the beginning of his exposition,† that "priority in the sequence *observed*, and invariableness of antecedence in the past and future sequences *supposed*, are the elements, and *the only elements*, combined in the notion of a cause"?

Secondly. Unless we absolutely refuse to recog-

* See p. 356. † See p. 13.

nise the real meaning of clear and well understood expressions, the idea of *invariableness* cannot possibly be supposed to depend upon a single observation. Variableness supposes a *number of things, or states of one thing, or observations,* various in their nature, unconstant, changeable, which are not the same: invariableness, being the opposite of this, signifies a *number of things, or states of one thing, or observations,* alike, constant, similar, or unchanging. Now, since the idea of invariableness is one of the elements of the idea of cause, in the established system of natural laws, how could it be pretended that this idea originates from an *instant belief,* determined by a first and single observation?

This is sufficient to show the inconsistency of Dr. Brown's desultory disquisition on Hume's doctrine of cause or power. The idea of necessity, in the sense in which it is used by Hume, comprehends that of invariableness; and Hume's theory was certainly true at the time it was proposed, and still remains true, inasmuch as it only refers to the relations of cause and effect in the actual order of nature.

§ XLIV.

It has been shown in the preceding investigations that the idea of *Cause*, as well as the general ideas of Space, Time, Number, &c., has its foundation in our experience. That philosophers have been led to consider the origin of the idea of Cause as an insoluble problem,* is an error, the origin of which it would be useless to examine. It is sufficient to have recognised that the idea arises from the observation of the relations of antecedence and sequence between natural events. This is so true, that the expression *Cause* can be dispensed with in scientific language, when we have only to refer to the *actual* course of nature, and may be replaced by that of Natural Law, or any other specific term which implies the uniformity of the antecedent fact. It is for this reason that my so justly celebrated countryman, M. Auguste Comte, has been able to reject the idea

* See 'Encyclopædia Britannica,' 6th Edition, Vol. XVI., quoted in 'Philosophy of Geology,' second edition, p. 44.

of Cause from his 'Philosophie Positive;' although it must be evident that he cannot have any objection to the word, as equivalent to the idea of a fact antecedent to a change.

§ XLV.

But, besides dismissing the expression of Cause, M. Comte has accepted as his fundamental ground the *absolute* invariableness of the antecedent fact; and has thus, in my opinion, fallen into an error which vitiates the very basis of his philosophy. In rejecting all inquiries after *Causes* as inaccessible, he has prejudged the question of the invariableness of the actual course of nature, and virtually adopted, *à priori*, the dogma of the eternity of the established order of things.

This is the only ground on which M. Comte's system can be opposed. Against *this view* of his *positive philosophy* I adduce positive facts—facts which lead us to the idea of a beginning of the actual natural laws—viz., the history of the globe, the geological collections, and recorded realities,

which bring forth before us the exhumed remains of the first organised beings which have appeared on the consolidated surface of the earth; and conduct us possibly, through an uninterrupted series of material events, to the primordial idea of the formation of the sidereal centres of attraction in space.*

Here I place the natural and philosophical ground of the idea of GOD: a creation supposes a Creator.

Because material facts are urged against the in-

* Dr. J. S. Mill in his 'System of Logic,' boldly asserts that "any one accustomed to abstraction and analysis, who will fairly exert his faculties for the purpose, will, when his imagination has once learnt to entertain the notion, find no difficulty in conceiving that in some one, for instance, of the many firmaments into which sidereal astronomy now divides the universe, events may succeed one another at random, without any fixed law."

After this it appears to me not a little astonishing that the idea of events anterior to the series or beginning the series of actual laws, such as the formation of centres of attraction in space, and the creation of organised beings, did not occur to Dr. Mill's mind, otherwise he would not have thought that events could *succeed each other* at random—a view which, notwithstanding what the learned Doctor says, is absolutely incomprehensible; and he would have found it to be so had he tried to illustrate the proposition by some examples.

variability of the antecedent fact *in past times*, the notion of habitual sequence is incomplete as the basis of a philosophical system.

Inquiries into the past have led us to recognize that there was a time when a species of animal or plant *did not* originate from a parent stock; that there had been a first man rising on this earth, who had not a human father; and that the actual order of things has not existed from eternity. Invariableness is not therefore *absolute.*

For this reason, and no other, the idea of Causation ought to be pursued in the historical series of natural events, without admitting *à priori* the restriction of the invariability of the antecedent fact.

Thus we may hope to advance a step nearer the great philosophical aim of the human mind—the contemplation of the Cause of Natural Laws, the First and Supreme Cause, the Cause of Causation.

CHAPTER XV.

A NEW IDEA.

§ XLVI.

THE whole of the substance which constitutes the solid and liquid mass of the terrestrial globe formed once an immense aëriform sphere.

This sphere was composed of as many concentric atmospheres as there are simple bodies now existing in the entire mass.

Each of these atmospheres was possessed of a special independent existence, according to Dalton's law, "that one gas acts as a *vacuum* with respect to another;" in the same manner as carbonic acid, azote, and oxygen exist now, gravitating each by itself around the consolidated shell of the earth.*

* As I happen to be aware that there are learned gentlemen, always ready to appropriate, and to endue with the splendour of their own style, new ideas, as soon as they are proposed by their fellow-labourers in the field of science; I

§ XLVII.

The idea expressed above, which I think will be considered as a novelty, as to the part printed in Italics, has more of the character of a conception *à priori* than the cranial homologies of Oken, and

would humbly beseech those gentlemen (in case they should think proper to grace with their own name the idea above), to be so kind as to take it *literally* from me, and not to dilute it in their own phraseology, however elegant! For, although I am quite sensible of the immense advantage *to the idea*, of such distinguished adoption, I cannot look upon it but with the prejudice of a parent's eye, and it grieves me, severely, when I see the simple dress, which I had thought most suitable for the new progeny, replaced by another clothing (however splendid!) which conceals its natural proportions.

That the public may judge that these remarks are not without some foundation, let them look at a new idea which I suggested in 'The Philosophy of Geology,' p. 139, and compare it with Mr. Ansted's version of that very idea, in his 'TALES ON THE ANCIENT WORLD,' p. 386.

Mr. Jobert's Idea.

THE system would have been more rational if Mr. Lyell, modifying the ideas of Brocchi, had supposed a natural limit to the existence of the species, and at the same

Mr. Ansted's Garment.

WE know not why or how it is that the egg of a butterfly, when it has existed for a certain time, and has been exposed to a certain temperature, becomes a worm,

than many other ideas which the disciples of Kant consider as originating in the human mind, independently of experience: but I intend to show, in my next Essay, that this idea originated in my mind through the inductive process.

time, an inherent organic principle which would have caused it to give birth, at the moment of its destruction, to a superior species, through a process similar to that of the metamorphosis of insects, from the state of larvæ to that of a fly or a butterfly. He might have considered, for instance, the Trilobites as larvæ destined to procreate, at the moment of their extinction, as species, the new families and the new genera which succeed to them. The species of fishes of the old red sand-stone would have been the tadpoles of the species which have followed them; he might, even, have advanced that nature had employed for the production of new classes, means different greedily devouring *green food*, rapidly increasing in size, and performing the important part it is known to do in the economy of nature. Still less, if possible, can we judge of the cause why this worm, after a time, building for itself a warm coat of silky fibre, burying itself as it were in a shroud of its own manufacture, ceasing to feed, and scarcely remaining alive, at last it bursts forth in the form of the parent animal, and lives for a short time on the tender juices of flowers. Surely this is not less remarkable, although the phenomenon is more familiar, than the succession of species which we observe to have taken place during the lapse of time, or the representa-

Thus, in pursuing the course of my investigations, and endeavouring to lay the foundation of a new system of Philosophy, I shall have for a secondary object to strengthen the leading argument of the

from those which are known to us; that prolific aggregations of Trilobites might have engendered the Saurian reptiles, which in the Permian and Triassic systems succeed to these Crustacea, which entirely disappear in the last of these systems. But, although Mr. Lyell's views, thus modified, would have appeared more intelligible, these suppositions would have added nothing to the probability of the hypothesis itself.

tion of species well known to exist over wide areas in space.

The analogy is not greatly strained, if we suppose that the original plan of development of all organic nature, whatever it may have been, included succession and representation of species, just as the development of the moth includes metamorphosis; nor is it unphilosophical to suggest such an illustration as an explanation, not only safe to a certain extent, but even satisfactory with regard to many of the difficulties presented by this subject.

Because I have allowed M. Elie de Beaumont the privilege of enjoying, for eighteen years, the working out of another idea of mine (see 'Philosophy of Geology,' chap.

preceding Essay, that all truths whatever are acquired to us through the channel of our senses, or founded on experience.

viii.), without claiming my right of property; it is not a reason why others should take occasion from my forbearance to consider my writings as a legitimate source of plunder and piracy. Patience has its limits; it is not a universal and necessary truth!

END OF THE FIRST ESSAY.

London: Printed by WILLIAM CLOWES and SONS, Stamford Street.

By the same Author.

THE PHILOSOPHY OF GEOLOGY.

Price 5*s.* 6*d.*

SECOND EDITION.

ALSO,

LA PHILOSOPHIE DE LA GÉOLOGIE.

Price 5*s.* 6*d.*

OPINIONS OF THE PRESS.

"Really what it is called, 'The Philosophy of Geology.' It is a book of profound thought, and showing a large grasp of intellect."
The Critic, No. 131, July 3, 1847.

"A clever and ingenious refutation of the doctrine of 'the eternity of the actual course of nature.' It is directed chiefly against the theories of Hutton and Lyell, and though very compendious, is, in many respects, exceedingly well done."—*Dublin Review*, Jan. 1848, p. 524.

"It is an interesting work, not burdened with details, but full of instruction and of materials for thinking."—*Family Herald*, Nov. 7, 1846.

"Geology is an hymn to the Creator, and the author has made his work worthy of his theme. The essay is at once clear, original, and profound, forming a small book as to quantity, but as to quality invaluable."
Truth Tester, Oct. 15, 1846.

"One of the main objects of this very valuable work is to refute the doctrines of Hutton, and the arguments adduced by Mr. Lyell in their support. . . . . Mr. Jobert's speculations are very ingenious. We can strongly recommend this work to all geological students, and we do so with the greater pleasure, on account of the reverential piety which animates its author. The volume is altogether free from dogmatism; and the new views enunciated are expressed with all that modesty and deference which characterize real merit."—*Douglas Jerrold's Newspaper*, Sept. 25, 1847.

"The 'Philosophy of Geology' seems to us to be a very erudite, scientific disquisition, entering into the most recondite details; but proceeding with due caution and keen discrimination to the various conclusions the author is fain to vindicate."—*Hood's Magazine*, 1847, page 480.

"Those who take an interest in the higher generalizations of geology, will find much in this book that will repay a careful perusal. The conclusion that Mr. Jobert arrives at, with regard to the phenomena presented by geology is, that they are the result of a repeated intervention of a Supreme Providence, and not the consequence of an eternal law of invariable revolutions."—*Athenæum*—second notice—Dec. 11, 1847, p. 1271.

"The author of this elegant volume has done good service to the world by the publication of the results of his profound attention to the complicated details of Geology, whence he has deduced a 'Philosophy' at once original, simple, and satisfactory. The reader will find in it, not a dry epitome of facts, but a precious fruitage of philosophy."—*Truth Seeker*, vol. ii. page 452.

By the same Author.

THE ART OF QUESTIONING AND ANSWERING IN FRENCH.

By A. C. G. Jobert.

Price Four Shillings.

London: Simpkin, Marshall, and Co.

Paris: A. & W. Galignani & Co.

The peculiar and special object of this Book is to make the learner speak as soon as possible, by causing him at once to practise the language in its interrogative and *responsive* forms; and familiarising him with the most arduous part of the grammatical construction, viz., the use of those numerous auxiliaries which are substituted in the French language for the inflexions of Latin words, and which render it so difficult to foreigners.

The following Extracts, taken from a considerable number of letters addressed to the Author, will give an idea of the opinions formed of the Book by those entitled to be the best judges; viz., the most eminent teachers in London, Edinburgh, Dublin, and other principal towns.

"Having perused your excellent little Work, I am now prepared to give my candid opinion as to its merits. The positions of the personal and supplying pronouns usually form a serious drawback to the French Student's advancement, and although all the French Grammars treat more or less fully upon this knotty subject, still you are the first who has handled it in a truly perspicuous and masterly style. The elegant and judicious selection of your Phraseology is of itself highly recommendatory of the Volume, as a *Recueil de Phrases*, but coupled with the important and principal object of the Work, and the admirably lucid and pleasingly progressive manner in which you establish your Rules, and lead the pupil step by step throughout the whole range of this indispensable though somewhat intricate portion of the French Syntax, the performance reflects the highest credit upon your judgment and skill, and you have, by so valuable a production, conferred a great benefit upon Teachers and Students of the French language.

"J. L. MAZZONI,
"Teacher of French.—Lately of the High School, Leith."

"I have had the pleasure of receiving the book you have sent me. I have examined it with care, and I congratulate you sincerely. Your Exercises fill up a deficiency. I will recommend the book.....Public approbation ought to be your reward.

"C. DELILLE,
"Professor of the French Language at Christ's Hospital, &c. &c."

"I think this little volume is very well written; it is a precious addition to those elementary books which facilitate the most, in this country, the understanding of our language. I wish sincerely you may receive the reward of your labour.

"ISIDORE BRASSEUR,
"King's College, London, Sept. 9th, 1843."

By the same Author.

"You have rendered a very great service to French students, and a greater still to French teachers.

"Your Questions are admirably progressive, and I congratulate you also for having chosen interesting subjects. I will not fail to recommend the book to my friends."

"MARIN DE LAVOYE,
"Professor of French at the Honourable East India Company's, Addiscombe."

"Your work is excellent; I am convinced that whoever makes use of the book in the way you explain, will obtain the desired result.

"L. A. J. MORDACQUE,
Free Grammar School, Manchester."

"I have perused with attention the 'Art of Questioning,' &c. The immense variety and the choice of expressions in this book, render it, in my opinion, very useful to those who wish to familiarise themselves with French phraseology.

"DESIRE PONTET,
"Professor of the French Language, Dublin."

"I have perused your book attentively, and I am happy in being able to bear witness to the excellency of the work, which is, in my opinion, indispensable to all those who study the French language. What I admire the most is the fortunate choice of the sentences, which will lend some charm to a work in which the aridity of the subject might have been the most dangerous obstacle to its success. You may be assured that I will not fail to recommend your book to my pupils.

"ARMAND BENTLEY,
"Professor of the French Language at the Shrewsbury Grammar-School."

"I consider your little book as very useful, principally for a part of the language whose study is too much neglected. I will not fail to recommend it as often as the opportunity presents itself.

"SULIOT,
"Professor of the French Language, High School, Liverpool."

"During thirty years that I have given instruction to natives of England and Scotland, I have examined a great many books for teaching the French language, and I can say that not one has afforded me so much pleasure as yours. You may be assured that I will not neglect to give to this excellent work all the publicity which it deserves.

"GUILLEMETTE,
"Professor of the French Language, Dumfries Academy, Scotland."

"I think the plan of your book is excellent; it fills up a deficiency.... I will not fail to recommend it to my friends.

"F. E. VEMBERGUE,
"Manchester, January 11th, 1844."

"Of your little book on the philosophical and practical mode of teaching the French language, I do not profess to be a good judge; but I admire its clearness, its principles, and its arrangement, and I am certain that a man of your talent cannot handle a subject with which you are so familiar without throwing some new light upon it.

"ADAM SEDGWICK,
"Trinity College, Cambridge."

IDEAS.

OR,

OUTLINES OF A NEW SYSTEM OF PHILOSOPHY.

BY

ANTOINE CLAUDE GABRIEL JOBERT,

AUTHOR OF THE 'PHILOSOPHY OF GEOLOGY,' &c. &c.

ESSAY THE SECOND AND LAST.

"AUDI ALTERAM PARTEM."

7
f
13

LONDON:
SIMPKIN, MARSHALL, AND CO.,
STATIONERS' HALL COURT.

1849.

London: Printed by W. Clowes and Sons, Stamford Street.

IDEAS.

ESSAY THE SECOND AND LAST.

NEW ARGUMENTS AGAINST PURE SPIRITUALISM AND TRANSCENDENTALISM.

THE PHILOSOPHY

OF

CONTEMPLATIVE EXPERIENCE.

"Je pensai que les sciences des livres s'étant composées et grossies peu-à-peu, ne sont point si approchantes de la vérité que les simples raisonnements que peut faire un homme de bon sens touchant les choses qui se présentent."—*Descartes.*

"Esse quoque in fatis reminiscitur affore tempus
Quo mare, quo tellus, correptaque regia cœli
Ardeat; et mundi moles operosa laboret."
Ovid, Metamorph., Lib. I.

TO

JAMES HEYWOOD, ESQ., M.P., F.G.S.

DEAR SIR,

HAVING inscribed my first Essay to my excellent and much-honoured friend, Professor Adam Sedgwick; and having made my appearance in Manchester, in a great measure under his auspices; since he favoured me with a letter of introduction to yourself, which has been of great value in promoting my interests, and has much contributed to my determination of fixing my residence in this town; I think it is very natural that I should endeavour to show my sense of gratitude, in offering

to you the dedication of this Essay: and I take this opportunity to assure you of the high consideration and esteem with which I remain,

Dear Sir,

Your obedient servant,

THE AUTHOR.

PREFACE.

An old friend in a new dress;

THE DUALITY.

MIND AND MATTER.

A FIRST CAUSE.—A CREATION.

The Author of this book is an isolated thinker, entirely removed from the influence of coteries and academical or scientific corporations. He exposes his views without disguise; and if there is any merit in his writings, this is due to the fact that they are entirely free from those literary condescensions, and friendly reserves, which, so often, disguise to the public the exact value, and true bearing, of contemporaneous systems and philosophical speculations.

CONTENTS.

ESSAY THE SECOND AND LAST.

CHAPTER XVI.

Page

§ XLVIII. That the Spiritualist Doctrine has received a new impulse from recent publications—Preamble—§ XLIX. Remote Origin of Spiritualism—Pyrrho and Descartes—§ L. Answer to objections—Indestructibility of matter—That atoms have not their conditions of existence in our sensations—§ LI. Chasm between matter and mind—§ LII. Berkeley's fallacy reduced to a Syllogism with a false premiss—§ LIII. New argument against the doctrine that *esse* is *percipi*—That to any undisguised untruth the only answer is by an argument *ab absurdo*—Dr. Whewell's opinion on the reality of the external world—Mr. De Morgan's—Mr. J. D. Morell's—Cause of the errors of these writers—The man of common sense against a metaphysician—*Note* on numbers 159

CHAPTER XVII.

LIV. Sir Wm. Hamilton's views on the reality of the external world—That he absorbs the duality in the unity of consciousness—Natural realism—Common sense—*Intelligible* truths *not* to be *understood*!—Analogy of Sir William's philosophy with that of Berkeley—§ LV. That the absolute existence of mind is independent of the existence of organic nature—§ LVI. Further examination of Berkeley's scheme—Dilemma

Page

—§ LVII. Either he readmits the duality—§ LVIII. Or there is no difference between his system and pure materialism—§ LIX. The Duality a fact inherent to the established order—Would remain even under the form of the two generalizations, Ethereal matter and Mind 176

CHAPTER XVIII.

§ LX. Inconsistency of Modern Spiritualism—Chemical and Mineralogical Atom—L'Abbé Haüy's Crystallography—The real existence of the Chemical Atom deduced from mechanical division—That the Chemical Atom is insecable—Absurdity of the assertion that by division matter would fall to a zero—Finite divisibility of matter—Dalton's theory of Equivalent Proportions incompatible with infinite divisibility—Limits of animal life in the descending scale due to the definite size of atoms—Cause of the confusion in the problem—Newton's views adopted—Hume's argument supported by Sir Wm. Hamilton, that matter is a cluster of qualities, rejected—That form, size, solidity, are not qualities, but compose the very essence of matter—Centres of forces—Leibnitz 190

CHAPTER XIX.

§ LXI. Doctrine of Fichte analysed—That between the sublime and the ridiculous there is but one step—Illustrations showing the complete absurdity of his doctrine —§ LXII. The anonymous author of 'Universal Immaterialism' — His doctrine like that of Fichte—His egregious mistake—That he confounds colour with the idea of colour—Nature of the colouring principle—The importance of iron as such—Simplicity of this writer—Ludicrous consequences of his doctrine—His proposed prize of 100*l.* perfectly inaccessible—Obstinacy of the spirit of system, &c. 204

CHAPTER XX.

Page

§ LXIII. That the doctrine of the actual universal unity leads to the philosophy of the eternity of the actual order of nature—Berkeley's Dialogues—His doctrine cannot admit a beginning—Spinoza—Leibnitz, &c.—Fichte-judged by Mr. Morell—§ LXIV. Mr. Emile Saisset's doctrine examined—Note on space and time—That Mr. Saisset's doctrine is that of no creation—The duality an actual fact—§ LXV. Conclusion of this chapter 217

CHAPTER XXI.

§ LXVI. The modern doctrine of intuition—Mr. Morell's process of argumenting—General view of his philosophy—Tries to place the source of our knowledge beyond the reach of logic—§ LXVII. Exposition of the author's personal view of the Mental Element—Mind a real entity—Proof that the soul is not identical with the Idea of Causation—Mind a spark of the Divine essence—§ LXVIII. Mr. Morell's four stages of human consciousness—Analysis of his views on Perception and Intuition—§ LXIX. Refutation of this doctrine—Its result is to sink the soul entirely into the senses . 229

CHAPTER XXII.

§ LXX. Sir Wm. Hamilton's Philosophy of Perception examined—Objections—§ LXXI. That this philosophy receives very little support from the authorities quoted by Sir William — His prejudices in favour of pure idealism—§ LXXII. Examination of his division of the qualities of matter—That his doctrine is founded on a confusion between sense and mind—It leads to pure materialism 247

CHAPTER XXIII.

Page

§ LXXIII. The Logical Power—Its regulating functions restored—The senses the condition *sine quâ non* of perception—That logic presides over the fact of distinct sensation and perception—First act of the reasoning faculty a Syllogism—§ LXXIV. That the logical faculty is involved in the errors of our senses, shown by a Syllogism—That both logic and the senses rectify their mistakes—That logic is consciousness itself . 259

CHAPTER XXIV.

§ LXXV. Mr. Morell's fourth stage of consciousness —A higher kind of Intuition, or higher reason— § LXXVI. Schelling's doctrine examined—Its defects —That it makes existence unintelligible—§ LXXVII. Analogy of Mr. Morell's higher intellectual consciousness with Schelling's intellectual intuition—Examination of the doctrine in itself—Its fallacy—§ LXXVIII. That the principle of higher intuition falls into the range of the logical faculty—§ LXXIX. The doctrine of Mr. Cousin, that reason is not personal, reduced to a Syllogism—Its fallacy—§ LXXX. The doctrine that these intuitions are not individual, but belong to mankind as a whole, examined—That this doctrine is mystical—contradictions in Mr. Morell's views—their inconsistency, and the oversights which they contain—that they are in contradiction to *original* common sense—§ LXXXI. That we gain nothing by denying the evidence of our senses and mind—ambitious views of the idealists—that metaphysics cannot be achieved, and is nothing but a maze of confusion . . . 267.

CHAPTER XXV.

§ LXXXII. Upon what ground the basis of human knowledge is to be placed—the Categories of Mr. Victor

Page

Cousin — Process of elimination of the redundant elements of these Categories—their reduction: 1. To the individual mind and general intellect; 2. To material unity and material multiplicity; or, actual causes and first cause—§ LXXXIII. Two systems, apart from metaphysics: 1. That the world has existed for ever as it is now; 2. That it has had a beginning . . 286

CHAPTER XXVI.

§ LXXXIV. That the doctrine of no beginning is in opposition to the fact of the existence of light, or of a resisting ether—Dr. Whewell's views on this point—The nebular hypothesis—The formation of nebulæ—Whether due to forces eternally residing in matter—No fact in support of this opinion—§ LXXXV. To contend that this power has eternally existed in matter, although it has begun in time, is a Logomachy—Want of profundity of the author of the 'Vestiges of Creation'—absurdity of his argument on this point—§ LXXXVI. W. Herschel's supposition of irregular clouds, and the formation of eddies or whirlpools producing a rotatory motion, unfounded and fallacious—§ LXXXVII. The probability of Laplace's views as representing the modes, means, and laws of condensation—That condensation began at once in the infinite space—a starry sky necessary to the development of mankind, &c.—a single act of creation 295

CHAPTER XXVII.

§ LXXXVIII. The whole quantities of every simple body considered under a collective view—Analysis and synthesis—Dalton's views of the independence of elastic fluids forming concentric atmospheres—Hypothesis of the author — That the terrestrial globe was once a vaporous mass, composed of as many concentric atmos-

Page

pheres as there are simple bodies—§ LXXXIX. Fitness of this hypothesis to explain the circumstances of the dissemination of these bodies in the terrestrial crust—Vaporous oxygen, the general menstruum—Agreement of this hypothesis with mathematical calculations of the earth's density, and with the distribution of simple bodies—Oxygen the active element of fixation—Its union with the earthy bases—That this hypothesis forms the passage between the astronomical and the geological view of the origin of the globe . . . 306

CHAPTER XXVIII. AND LAST.

§ XC. The organic creation—Reference to 'Philosophy of Geology'—The question reduced to a small compass—That progress supposes a beginning—and a beginning supposes the non-eternity of the law of development—A point of starting, &c.—§ XCI. Philosophy based upon the contemplation of astronomical and geological facts—§ XCII. Sublimity of this contemplation—§ XCIII. Arguments of metaphysicians against the philosophy of contemplation and experience—Answer to the reproach of circumstantial fatalism—Origin of instincts—notions of good and bad—§ XCIV. Utility the objective of design 329

IDEAS.

ESSAY THE SECOND AND LAST.

CHAPTER XVI.

§ XLVIII. That the Spiritualist Doctrine has received a new impulse from recent publications—Preamble—§ XLIX. Remote Origin of Spiritualism—Pyrrho and Descartes—§ L. Answer to objections—Indestructibility of matter—That atoms have not their conditions of existence in our sensations—§ LI. Chasm between matter and mind—§ LII. Berkeley's fallacy reduced to a Syllogism with a false premiss—§ LIII. New argument against the doctrine that *esse* is *percipi*—That to any undisguised untruth the only answer is by an argument *ab absurdo*—Dr. Whewell's opinion on the reality of the external world—Mr. De Morgan's—Mr. J. D. Morell's—Cause of the errors of these writers—The man of common sense against a metaphysician—*Note* on numbers.

§ XLVIII.

SINCE the publication of my first essay, at the beginning of the last year, the spiritualist and idealistic doctrines have acquired a greater degree of nota-

bility, and received a new impulse from the works of several writers, among whom Mr. J. D. Morell and Sir William Hamilton appear as the most eminent leaders and promoters of metaphysical inquiries. On the other hand, as I have myself received remarks and objections, in a series of letters and communications, from some very distinguished philosophers, it appears desirable and necessary that I should strongly insist, not only upon the correctness of the view which I have taken of what is called Berkeley's doctrine, but upon the absolute untenability of the doctrine itself.

The most distinguished metaphysicians and logicians of this country do not now defend the doctrine of Berkeley as absolute: they only consider the real existence of the external world as an insoluble problem; and my object in the first chapters of this essay is to point out their error, and to show that there is no ground for scepticism.

§ XLIX.

It will not be useless for those of my readers, who are not thoroughly versed in metaphysics, to remark

in the beginning of the present essay, that the philosophy I oppose does not originally belong to Berkeley, and can be traced to very remote antiquity; since, besides its consanguinity with the Platonic idealistic system, it was comprehended in the doctrine of the Sceptics, founded by Pyrrho, in the fourth century before the Christian era. This philosopher, exaggerating some of the arguments of Parmenides, not only questioned the real existence of the external world, but even doubted his own existence.

This same doctrine is more or less noticed and discussed in the philosophical and theological controversies of the subsequent ages, up to the comparatively modern time when it was taken in hand by Descartes, who developes it at length in his Method and his Meditations.* And so current were these

* I reproduce here one of the numerous passages where Descartes expresses his doubts on the reality of the external world. This quotation will be sufficient to show how little ground there is for the common opinion prevailing in England, that this doctrine belongs to Berkeley. Descartes' works were anterior to those of Berkeley by nearly three quarters of a century.

"However, I have received and admitted previously many

ideas at that time, that when Descartes was reproved by Hobbes with the remark, that "he ought to have abstained from publishing observations so ancient," he could only reply, "that he had not published them to acquire glory."*

Descartes, however, used the doctrine only as an argument, and concluded his meditations by admitting the independent existence of the external world.

things as very certain and manifest, which I have recognized afterwards as being doubtful and uncertain: which things were these? They were the earth, the heaven, the stars, and all the other things that I perceived through my senses. What could I conceive clearly and distinctly in them? Certainly nothing, but that the ideas (les pensées) of these things presented themselves to my mind. And still at present I do not deny that these ideas are in me. But there was still something that I affirmed, and which, on account of my being accustomed to believe it, I thought to perceive very clearly, although, in truth, I did not perceive it, viz.: that there were things external to myself whence these ideas proceeded, to which they were exactly similar; and it was in this that I was mistaken; or if perhaps I judged according to truth, it was not any knowledge of mine that was the cause of the truth of my judgment." *Translated from 'Troisième Méditation,'* p. 95, édition Charpentier.

* Descartes, édition Aimé Martin, Paris, 1844, second edition, p. 157.

But his reason for acknowledging that material things were real, is, that they are put in us by God, and that God cannot deceive us; which would be the case if he had allowed us to believe that they were real whilst they are not so; and still the doubts which could be raised on the real existence of the external world appeared so great to him, that when Gassendi made these objections—"If you doubt adventive ideas [meaning ideas communicated by external things], how could you walk upon the earth?" and "If a man born blind has no idea of light, it is because the image of external things cannot reach him"*—Descartes contented himself with answering, "It is a question to know if I walk upon the earth? Cannot he who denies the material world say that we fabricate by ourselves the idea of colour, and that if a blind man has not that idea, it is by want of invention?"†

* Cinquièmes Objections, p. 165.

† Réponses, p. 174. See also Descartes' last and unfinished treatise, 'Recherches de la Vérité,' p. 421.

§ L.

Our knowledge of a pebble is not limited to the pebble as pebble, as a critic remarks in a review of my first Essay.* We know that it is composed of an independent substance or matter. We know that when dissolved in a liquid or evaporated in the air, the matter of the pebble is still in existence. We can follow it in our minds under another form, even that of a gas diffused in the mass of another gas. If I reduce a diamond into an impalpable powder and blow it in the air, or if I put it in a crucible, and allow it to burn and evaporate in the form of carbonic acid, every one knows that I have not destroyed the matter of the diamond—I have only divided it: I cannot see it any more: it is in parts so small and so distant one from the other, that they cannot make an impression on my senses, and are accessible to my mind only; but I am as certain that they still exist as I am of my own existence.

There is an endless variety of things which subsist

* See the 'Economist' of February 26, 1848.

quite independently of myself, that I cannot see or touch, and which no one has ever seen or will ever see. Here is a particle of carbon, say an atom of carbon, escaping, with two atoms of oxygen, from the flame of a piece of straw, burning it matters not where. I can follow this atom in its vagaries through the atmosphere: I can see it, with the mind's eye, wandering here and there, urged on by the wind, revolving round our sphere; now above the loftiest mountains, now in the deep valleys; then, perhaps, absorbed in a cloud and falling down with a drop of rain or a flake of snow; again taken up by the vegetative power, and either sucked up by a root, or rising anew in the atmosphere and appropriated by a leaf, or becoming a part in the composition of a rose, which may, but only perchance, and perhaps simply through its perfume, exhibit to my senses the reality of that matter which I had considered as forming the substantial part of a piece of straw. Myriads of myriads of these atoms exist in our atmosphere which will never fall under the cognizance of organic perception; and how

could we believe, then, that their condition of existence resides in our minds only?

It is not, therefore, to the sensation produced in us by the straw, the rose, or the pebble, that we give the abstract name of matter; it is to something which we know to be in existence, even when it is not in a condition to produce any sensation at all; the sensation being caused by the concrete form assumed, at a particular time, by this independent and (in the actual order of nature) indestructible element, which cultivated common sense and reason show us as constantly forming the basis of all these things which are brought to our knowledge by the agency of the senses.

To say that the existence of a pebble is wholly independent of our perception, is not assuming that "the word pebble is the cause of the pebble," but that the pebble is composed of matter existing in the pebble itself; whilst Berkeley's argument supposes that the matter composing the pebble *exists not* in the pebble, but only in our mind; and this is the doctrine which I oppose.

§ LI.

Here, for fear that my views should be mistaken, I must remark that, in the preceding lines, I have not been advocating the doctrine of intuition, which I investigate and oppose in another chapter, under the new form it has assumed in the writings of Sir W. Hamilton and Mr. J. D. Morell. On the contrary, I fully admit that the knowledge of these untangible atoms originates in real facts, collected by the inductive process, or in deductions from experience. What I want to establish now is, the independent existence of the external world, or to express my view by a forcible figure, the *chasm* subsisting between the existence of the great generalisation which we call matter, and the existence of myself as a thinking unity.

§ LII.

In a purely logical view, the fallacy implied in Berkeley's doctrine is easily demonstrated by shaping that doctrine into a syllogistical form. Thus we have:

A pebble is an idea;

An idea cannot have any existence except in our mind;

Therefore a pebble exists in our mind only.

But it is evident that the first premiss of this syllogism is false. A pebble is a pebble, not an idea; it only becomes an idea in being combined with, or apprehended by, the subjective element which the word idea includes, viz., our mind or thinking faculty.

§ LIII.

If stronger evidence was still wanting to establish the independent existence of matter, and to dispel the last shadow of a doubt upon this reality, so strangely transformed into a problem, the following argument will, I hope, be found effective.

Whatever may be the number of human beings at this moment in existence, the organic and physical relations between each of them and the universe are fundamentally the same; and it has been considered as a good argument in favour of the real

existence of the external world, that every human being must admit that there are *other minds* besides his own mind, and that these different minds receive the same impressions from the same external objects.*

Let us now suppose that the whole of the human species, after having existed for a time, be destroyed, with the exception of one man. Will not, then, for this man, the pebble be still a pebble, the star a star, the solid earth the solid earth, the universe the universe?

Now, destroy this last man. In your system the whole of the material world is destroyed also. But common sense tells us that it would not be so in fact; for the light reflected by the pebble and coming from the star, strikes in the same manner the eye of an elephant, of an eagle, of a fish, even that of an insect, as that of a man. The external world still exists for the whole of the animal kingdom.

Let us suppose, then, that the whole organized world is destroyed except a single animal, a bird, a

* A. de Morgan's 'Formal Logic,' pp. 28 and 29.

fish, or an insect. You cannot deny that the material world will still exist in the sensation of this single fish or insect. Should, then, this insect happen to be unfortunately crushed by the fall of a stone, in your system the whole inorganic world will be annihilated with it!

This is absurd, but it is the necessary and undeniable consequence of the doctrine of the oneness of the fact of *perception of matter*,* or of the *esse* being *percipi*. If you destroy the whole of the organic existences, with the exception of a single gnat, the doctrine which I oppose is obliged to grant that the objective world is concentrated in the perception of this gnat. Should this gnat disappear, it carries off with itself the whole of the material universe; there remains absolutely nothing! . .

. . . . . .

. . . . . .

To any assertion which implies the denegation of an evident reality, or to any direct undisguised *untruth*, the only possible answer is by an argument

* See First Essay, § XXXIII., p. 105.

ab absurdo. A great number of philosophers of the present age, at variance with the common sense of mankind at large, consider the real existence of the material world as a question without an issue.

It is, according to Dr. Whewell, "a profound, apparently insoluble problem;" and according to Mr. Augustus de Morgan, "if a man should affirm the whole creation to be a dream of his own mind, he would be absolutely unanswerable;"* whilst

* 'Formal Logic,' p. 28. The proposition originally belongs to Descartes. This admission of Mr. de Morgan shows how deeply this false philosophy has penetrated into the literature of science, since it has even found its way into rigid works of formal logic. Although Mr. Augustus de Morgan has addressed to metaphysicians some good hints and sharp advices (such as remarking that "they give much *must* with very little *why*," and warning the student "when he tries to look down his own throat with a candle in his hand, to take care that he does not set his head on fire"), he has given way to the philosophy in fashion, and yielded to the spiritualist theories of the age—an adhesion which was absolutely gratuitous and uncalled for; since, according to his own declarations, whatever views might be taken of the phenomena of thought, whether there exist *à priori* or only *experiential* ideas, it does not affect syllogism or logic; the study of logic in his

Mr. J. D. Morell maintains that "the material hypothesis (!) of the world, in its ordinary sense, is

opinion consisting only in the study of the *connexion of premises and conclusion.*—'*Formal Logic,*' Preface, p. v.

Mr. de Morgan enters so far into the views of the *à priori* ideas philosophers, that he contends with them that we cannot have assured ourselves by experience that 7 and 3 are the same as 5 and 5. As this assertion tends to impugn the validity of the argument on number in my First Essay, I think it will not be useless to demonstrate its utter fallacy.

Here are two series of real objects, which may represent either trees, flowers, animals, stones, or any other appreciable unities, even atoms.

$$\Delta\Delta\Delta\Delta\Delta\Delta\Delta + \Delta\Delta\Delta = \Delta\Delta\Delta\Delta\Delta + \Delta\Delta\Delta\Delta\Delta$$

How could it be contended that we cannot assure ourselves by experience that these two series are equal to each other?

A man wants a quantity of timber to construct a cabin or a bridge. In the first day he fells 7 trees and chalks the number on his door thus, 1111111. There is a stop, and he calls the first day's work 7; the next day he cuts down three more trees, and marks them after the others; he has thus 1111111 + 111. This is all he wants, and this *all* or total he calls 10. The sign + marks the interruption of work during night-time. Another man wants the same quantity of timber: on the first day he cuts down 5 trees; on the second day he will have to fell 5 more; and he has marked them down thus, 11111 + 11111, which he also calls 10. Hence it is seen that at whatever place you put the copula +,

involved in too many difficulties to render it even probable, much less demonstrably true;"* and that "we can neither prove the existence nor the non-existence of the material world."† The error of

this copula is not an element in the problem of the origin of our notion of numbers.

Numbers are relations or qualities absolutely or necessarily inherent to matter. The distinction between necessary and not necessary resides in the object itself, not in the mind. The mind recognizes this distinction by experience, and only by experience. It surprises me the more that these reflections have not occurred to the learned author's mind, that he acknowledges further, "that our definitions of number arise in the process of simple counting" ('Formal Logic,' page 171), and also that "there is no use in drawing a distinction between the knowledge which we have of our own existence, and that of 2 and 2 amounting to 4." Propositions which imply, first, that relations of number, although absolute, are purely *experiential*, and adhere to the objects themselves. Second, that we become acquainted with ourselves in the same manner as with the external world, or that we acquire the knowledge of our own existence by perceiving ourselves objectively in the same manner as we perceive other persons or other things. Deductions quite in opposition to the *à priori* or quasi-spiritualist doctrines *accepted* by Mr. de Morgan.

* J. D. Morell, 'Hist. of Mod. Phil.,' 2nd Edition, vol. i. p. 213.

† Ibid., p. 214.

these writers consists in their not having perceived that the evidence of a simple assertion does not fall under the test of syllogistic reasoning. An assertion being the fundamental irreducible element of the logical process, is either true or false; and the evidence of its being the one or the other exists in itself, but cannot be demonstrated. Thus we do not require a proof that 2 and 2 are 4, and we cannot *logically* disprove the assertion that 2 and 2 *are not* 4.

Should a man of common sense happen to say, in presence of a metaphysician, that snow is white; if the metaphysician asserts that snow is black, the man of common sense can only turn away in raising his eyebrows; and this is an argument sufficiently demonstrating that "such an idea involves an absurdity." * But if now the metaphysician, instead of pretending that snow is black, affirms that it has no existence at all; what difference will it make in the judgment of the man of common sense, except

* J. D. Morell, ibid., p. 214, vol. i.

perhaps that he will shrug his shoulders, and consider this last assertion as a still greater absurdity, or think that metaphysicians are not to be trusted as sound reasoners?

CHAPTER XVII.

§ LIV. Sir Wm. Hamilton's views on the reality of the external world—That he absorbs the duality in the unity of consciousness—Natural realism—Common sense—*Intelligible* truths *not* to be *understood!*—Analogy of Sir William's philosophy with that of Berkeley—§ LV. That the absolute existence of mind is independent of the existence of organic nature—§ LVI. Further examination of Berkeley's scheme—Dilemma—§ LVII. Either he readmits the duality—§ LVIII. Or there is no difference between his system and pure materialism—§ LIX. The Duality a fact inherent to the established order—Would remain even under the form of the two generalizations, Ethereal matter and Mind.

§ LIV.

Sir William Hamilton's views on the reality of the external world offer, at the first glance, the astonishing sight of two doctrines in one, each of them the antipode of the other. He admits with Descartes that the veracity of consciousness, which assures us of the real existence of a material world, *must at least in the first instance be conceded*, unless the melancholy fact be proved that man is organized to

become the dupe and victim of a perfidious creator.* But this cannot make us mistake the author's general view, which is to absorb the duality of mind and matter in the unity of consciousness. He contends throughout that the *not me* or external world ought to be granted only as an unexplainable primary *datum* of consciousness; and he never admits that it has a real existence by itself or out of consciousness. Those philosophers who recognise the real existence of the material world he classes under the designation of *hypothetical dualists;* and this because "they do not accept the existence of an external world directly on the natural testimony of consciousness, as *something known*, but endeavour to establish its *unknown existence* by a principal and sundry subsidiary hypotheses." † Sir William calls his own system *Natural Realism;* and he represents it as in connexion with Reid's doctrine, which, however, the learned Professor is continually and unmercifully correcting and criticising from

* Sir William Hamilton's Reid, note A, p. 745.

† Ibid., note C, p. 817.

one end of his notes to the other end. This philosophy is also called the philosophy of *common sense*. But in the hands of Sir William Hamilton common sense is very much like a piece of heated wax; for it takes all forms. It comprehends not only all the ultimate facts or primary data of consciousness, together with all the analogical designations of these facts, such as *senses*, *feelings*, *instincts*, *revelations*, *inspirations*, *suggestions*, *beliefs*, *assents*, *holdings*, &c.; but it is at the very root of all past and present systems of philosophy: no less than one hundred and six philosophers, *from the dawn of speculation to the present day*—from Hesiod, Heraclitus, and Aristotle, to Locke, Cousin, and De la Mennais—in one word, all the philosophers of the past ages and the present time who happen to have accidentally invoked the authority of mankind at large, whatever may have been the doctrine defended by them—being quoted in support of the universality of this pretended philosophy of common sense, and being said to have *recognised it in reality and in name!*

What is then this philosophy of common sense, which Sir William Hamilton endows with such an astonishing character of universality?* This is expressed in a phrase which is given as the watchword of the *Natural Realist*, "the facts of consciousness, the whole facts, nothing but the facts."† But here I feel I must give to the author the benefit of his own construction for the meaning to be attached to the expression of *common sense.*

"The term Common Sense is not inappropriately applied to denote an original source of knowledge, common to all mankind—a fountain of truths, *intelligible indeed*, but, like those of the senses, revealed immediately as facts to be believed, but not as possibilities to be explained and understood." ‡

Now, with due admiration for the author's great talent, I cannot shut my eyes to the obvious fact that the import of the sentence above is simply that

* Sir William Hamilton's Reid, note A, § VI., p. 770.

† 'Philosophy of Perception,' Edin. Review, vol. lii., p. 177.

‡ Reid's Notes, p. 757.

COMMON SENSE is a fountain of *intelligible truths not to be understood!*

That Sir William Hamilton's *Natural Realism* excludes the real existence of the material world is, I think, evident from what has been already said. I could multiply the quotations to show that he considers this existence as an act of consciousness only. But as the learned Professor has, in one of his notes, very nearly admitted the identity of his doctrine with that of Berkeley, it will be as well to quote his own words.

The contents of this note are these:—

"The general approximation of thorough-going Realism, and thorough-going Idealism, may, at first sight, be startling. On reflection, however, their *radical affinity will prove well grounded*: both build upon the same fundamental fact. That the extended object immediately perceived is identical with the object actually existing; for the truth of this fact, both can appeal to the common sense of mankind;—and to the common sense of mankind Berkeley did appeal not less confidently, and perhaps

more logically, than Reid. Natural Realism and absolute Idealism are the only system worthy of a philosopher; for as they alone have any foundation in consciousness, so they alone have any consistency in themselves."*

This analogy of Sir William Hamilton's philosophy with that of Berkeley can, besides, be fully deduced from his doctrine of perception, which is resumed in the note D, in the following terms:—

"I hold that in the consciousness of sensations . . . we have a *veritable (!)* apprehension, and consequently, an immediate perception, *of the affected organism* as *extended*, *divided*, *figured*, &c. This alone is the doctrine of Natural Realism, of common sense."†

"I hold that the mind perceives nothing external to itself, except the affections of the organism, as animated, being resisted."‡

"The only object perceived is the organ itself, as modified, or what is in contact with the organ as resisting."§

* Note*, p. 817. † p. 884. ‡ p. 885, ibid. § p. 847, ibid.

This I think is sufficiently clear; the only doubt which it can leave in the mind, is, what could be (in the author's views) the cause of the resistance to our organs? But as he looks on the qualities of matter from the psychological point of view solely, and considers the power of matter to resist compression "*as a conception of the understanding, not as an apprehension through sense,*"* I think I am justified in concluding that, followed up to its last consequences, Sir William Hamilton's doctrine is identical with that of Berkeley, and that therefore *all my* arguments against this *last philosopher* have their full weight against the pretended Natural Realism of the former.

§ LV.

Most of my readers will readily admit, I suppose, that in the crushing of the last remnant of organization in the world, the only thing which would really be destroyed is the phenomenon of organic perception in itself, and that the whole of the ter-

* p. 847.

restrial and stellar universe would survive the extermination of the last insect.

What may be the opinion entertained on these views by those philosophers who dare to place the conditions of existence of the supreme intellect exclusively in the mind of man, I care not, and I shall not stop to consider; I content myself with the remark that my arguments are fatal to their ambitious doctrine. The evidence we have of the existence of the supreme intellect does not rest on the evidence of our own existence; for independently of the fact of the creation, which presupposes the anteriority of a supernatural omnipotent principle, it is amply manifest that the absolute existence of mind does not more depend on the existence of organic nature than the existence of light, as a medium filling up space, depends on the existence of the bodies which we perceive through its substance. In other words, although we never perceive intellect but in its relations with organized matter, we can no more refuse to recognise it as an independent absolute principle, than we can deny

the independent existence of light, although we never see it but through its connexion with celestial or terrestrial bodies.

§ LVI.

Let us now follow Berkeley a little farther, and pursue his scheme in its last intrenchments.

You pretend that organization being entirely destroyed, the material world will still exist IN the mind of God, in the same manner as it existed before in the mind of organic nature.

In this case then you involve yourself in a dilemma. You are obliged to admit one of the two following propositions.

1st. That the material world exists separate and distinct from the mind of God, although in contact with it.

Or, 2ndly. That God forms one and the same thing with the external world.

§ LVII.

In the first alternative, your proposition is not intended to convey the idea of the oneness of mind

and matter. The preposition IN, placed between the two assertions, has not the virtue of reducing them to a single principle. For, it can be said that if you conceive infinite intellect as penetrating and surrounding the substance of things, or consider the material world as plunged in the Divine essence, it does not follow that intellect and matter are possessed of one and the same existence.

In this case, therefore, when you say that the material world still exists IN the mind of God, you are only undoing the argument that *esse* is *percipi;* you are reconstructing the duality that you had sought to destroy; you readmit the parallel and opposite realities of *intellect* and *matter**—you abandon the idea of the oneness of the two existences—you re-establish every thing as it was before, viz. mind on one side—matter on the other side; and the only addition which you have introduced into your doctrine, is that, if man or organism exist between the two, it is as a fact, not as a necessity.

Thus you have again fallen back on common

* See First Essay, § XXXVII., p. 115 and 116.

sense; and all that you have said before must be considered as nothing but an ingenious logomachy.

§ LVIII.

In the second case, if by these expressions, "the external world exists in the mind of God," you intend that matter and God form an inseparable unity—then, I cannot possibly see what difference there is between your system and pure materialism.

Any philosophical scheme which, like that of Hegel, reduces the two great generalizations—which we perceive in actual nature—viz. MIND and MATTER —into a single principle, whether it calls itself spiritualism or materialism, is one and the same scheme—the distinction being purely nominal. Spiritualism is an inverted materialism. If you abolish matter, to say that matter is mind, it is exactly the same thing as when you contend that mind is matter. A transposition of terms does not effectuate a change in the value of an equation.

God is matter, the materialist will say.

Matter is God, answers the spiritualist.

But in reality, both propositions or affirmations contain the same idea—the idea of the actual universal unity of things—the opposite of Dualism.*

* I think I can quote in support of these views the opinions of my illustrious countryman Mr. V. Cousin, who, in his very learned and ingenious researches on Xenophon, expresses himself in the following terms:—

"The Ionian and the Pythagorean schools have introduced into philosophy the two fundamental elements of all philosophies, viz., natural philosophy and theology. From that moment in Greece philosophy was in possession of two ideas, upon which it took its ground, the idea of the world and that of God. The two extremes of all speculations being thus given, it only remains to find their relations. Now, the solution which offers itself at first to the human mind, *preoccupied as it is with the idea of that unity*, is to absorb one of the terms in the other: to identify the world with God, or God with the world, is thus to cut through the difficulty instead of resolving it." ('Fragments,' vol. iii. p. 58.)

"Mankind believe with an equal certainty in God and in the world. . . . . The honour of true philosophy would be to accept and explain this universal belief. But for want of taking its ground on mankind at large, and of following the dictates of common sense, philosophy, until now wandering right and left, has fallen by turns into the one or the other extremity of systems—equally true under a certain aspect, equally false under another; and equally vicious, because they are equally exclusive and incomplete: this is the eternal stumbling block (*l'écueil*) of philosophy." (Ibid., p. 62.)

§ LIX.

To abolish the Dualist principle and establish the unity of mind and matter, you cannot, however, be allowed thus to overlook and trample upon either the material or the mental elements. You must grapple with the difficulty; you will have to disintegrate the *chemical* atom, and to show us that bodies reputed simple, like gold, carbon, oxygen, silicon, hydrogen, azote, &c., are composed of the same elements as intellect itself; or you must condense intellect and create from this condensation the concrete chemical atom. Until you have done one of these two things, the duality remains as a fact inherent in the established order of nature.

But even supposing that we go a step farther; that we have decomposed the chemical atom and transformed it, first into imponderable matter, and then into spacial ether*; still the duality will remain,—since we see that the celestial ether exists now in the same opposition to our mind, as the

* See 'Philosophy of Geology,' second edition, p. 163.

chemical atom itself.* The celestial ether is a resisting medium; we cannot conceive of resistance to motion in a medium, but by friction of surfaces. Surfaces cannot exist without form and size. The ether, therefore, is composed of solid figured atoms; and since the mind can grasp the ethereal atomic unity, it follows that the generalization which we have called *Mind*, subsists in the same subjective parallelism with the *Ether*, as it does with the generalization to which we have given the name of matter, viz., the chemical atom.

* For the existence of ether, see further Chap. XXVI.

CHAPTER XVIII.

§ LX. Inconsistency of Modern Spiritualism—Chemical and Mineralogical Atom — L'Abbé Haüy's Crystallography—The real existence of the Chemical Atom deduced from mechanical division—That the Chemical Atom is insecable —Absurdity of the assertion that by division matter would fall to a zero—Finite divisibility of matter—Dalton's theory of Equivalent Proportions incompatible with infinite divisibility—Limits of animal life in the descending scale due to the definite size of atoms—Cause of the confusion in the problem—Newton's views adopted—Hume's argument, supported by Sir Wm. Hamilton, that matter is a cluster of qualities, rejected — That form, size, solidity, are not qualities, but compose the very essence of matter—Centres of forces—Leibnitz.

§ LX.

Not content with denying the evidence of our senses and reason, which so imperatively commands our belief in the real existence of material objects, the modern spiritualists, treading in the footsteps of Leibnitz, include in their doctrine the question of the real materiality of the substance of atoms. So

that after having satisfied themselves that the concrete masses which fill up the universe exist only in their mind, they endeavour to prove that these masses are not composed of solid atoms; not perceiving that in this new inquiry they readmit the objective existence of external things, whether the atom be a real hard substance or a concretion of thought. But we pass over this inconsistency; and simply remarking how strongly the belief in the external world must be implanted in the human mind, since it reproduces itself in the very philosophy of those who deny the real existence of outward objects, we will examine the question of the solid atom in itself.

Let those spiritualists of Mr. Cousin's school (for he has himself fallen into this fallacy) who go so far as to consider, not only the chemical atom, but even the mineralogical molecule as a centre of forces, examine the question in matter itself, instead of sinking in the chimerical arrangements of isolated statical and dynamical powers.

Dynamical force is not perceived but in matter, because motion has never been seen but in some-

thing moved. To know therefore whether the thing which is moved is real, or whether a molecule is like the body which it composes—solid and figured —we must look into the elements of the body itself, and not into the abstract idea of motion; which is not a necessary condition of the existence of bodies, whatever Leibnitz and even Plato may have said to the contrary.*

When *l'Abbé Haüy* gave the first lesson of crys-

* It may be well questioned whether the invention of the Dynamical theory is not to be traced back to Plato himself, when we find such speculations as the following in his works:

"This universe is motion, and *besides motion there is nothing.* Of motion there are two species, each of which is infinite in multitude; but one species has the power of acting, the other of suffering. From the mutual friction of these a congress is produced, infinite in multitude, but two-fold in species; one, indeed, being that which is sensuous, but the other sense, *which always concurs and subsists together with sensible.* And the senses, indeed, are denominated by us as follow:—seeing, hearing, smelling, tasting, and the touching things hot and cold. Pleasures and pains, desires and fears, and innumerable other passions without a name, &c., follow these, but to each the sensible genus is allied, viz., all various colours, to all various sights; and in a similar manner, voices to hearings, and other sensibles to other senses." From the THEÆTETUS, *Thomas Taylor's Translation.*

tallography to his pupils at the *Jardin des Plantes*, he took in one hand (I describe *de visu*) a rhomboid of carbonate of lime (Iceland spar), in the other hand a small hammer; then he placed the fragments upon his desk, gave a sharp, though gentle blow, to break it, and showed that the whole of the fragments were exactly similar to the first rhomboid, having all the same geometrical form and inclinations of angles at the edges. He divided these small fragments again and again, until they were reduced to an impalpable powder; then he showed that this dust, by placing it under a microscope of very high power, was still an assemblage of similar rhomboids. Whence he concluded that we were authorized, by reasoning through analogy, to believe that the crystals of lime spar were composed of real hard molecules, having the same form as the rhomboid obtained by mechanical division—for there was no reason, he said, why we should suppose that the fragments would take another form when we reach the integrant molecule; the circumstance of our being unable to perceive this form in reality, being

only due to the limited power of our organs and means of direct observation. He therefore concluded that crystals were clusters of small solid particles or molecules, having each a fixed form and size. Upon this he founded the new branch of physics called crystallography, and established a classification which formed a new era in the annals of mineralogical science. If afterwards anomalies were discovered, and if, even now, doubts are entertained upon the complete efficiency of the system as a philosophical classification, there is not, I believe, a single mineralogist or crystallographist who does not consider an integrant molecule as possessing a fixed form and size. Whether the molecule itself might be theoretically decomposed into tetraedrons or into small spheroids, no mineralogist exists, I think, who would not smile at the idea of depriving the mineralogical element of a form and fixed bulk.

In the example suggested by the carbonate of lime, there is the complexity of the molecule, being itself composed of various sorts of chemical atoms;

but if transported upon a simple body like diamond, the argument applies equally to the indecomposable chemical atom;—no chemist or mineralogist will dispute this. Both the science of mineralogy and chemistry rest on the admission, that whatever may be the smallness of the atoms which compose a simple body, these atoms are *insecable*, possess similar forms in each species, and are in their nature like the mass which they compose.

All solid matter is considered as formed of small crystals which can be divided mentally into real hard atoms of a determined size. Even if it was for an instant granted that matter is infinitely divisible, any imaginable fragment could not still be considered as without form and size. The assertion of the German philosophers, that it would fall to a zero, is an absurdity, for the fragment would still remain divisible; and how could you divide nothing into two or more parts? The idea of infinite divisibility implies an evident fallacy, even in transcendental language, for it places the idea of the infinite into the finite.

Other arguments also concur to establish on an unassailable basis the doctrine of the hard atom.

1st. Atoms must be possessed of form, size, and solidity, since these properties are the inalterable attribute of their agglomeration.

2nd. When two distinct species of material substances combine always in the same relative proportions, we cannot conceive how this could take place without admitting that the atoms of each of these bodies possess a character of individuality and likeness to each other "which requires us to attribute to them a similar form and a fixed bulk."* Dr. Dalton's theory of multiple and equivalent proportions is absolutely incompatible with the infinite divisibility of matter. There would be no element to explain and measure the proportion of particles in a chemical compound if the total weight of each ingredient was not the result of a fixed number of atoms. Whether what we call an atom of car-

* See 'Philosophy of Geology,' second edition, p. 167, where Mr. Faraday's 'Theory of Centres of Forces' is examined.

bonic acid is composed in reality of one atom of carbon and two atoms of oxygen, or of one million of one sort and two millions of the other, more or less, the number must be definite; otherwise relative proportion is not possible. The very idea of proportion includes the idea of number, and the doctrine of definite proportions is false if the divisibility of matter is infinite.*

* The most remarkable examples of the great minuteness of material particles is noticed in the case of odours and colours: a fragment of musk will, it is said, send forth odoriferous particles for ages before disappearing; and a grain of carmine will impart a sensible colour to a comparatively enormous quantity of water.

In the case of odours, we must not be misled by the idea that particles are continually emitted in radiating currents by odoriferous bodies. It seems exceedingly probable that there is formed around them an atmosphere which gravitates towards the centre of radiation—let it be a flower or a detached fragment—so that it is only when a current of air carries off the particles that a new radiation takes place. Thus in a retired apartment a fragment of musk could remain for an indefinite length of time with scarcely any sensible alteration. If, in the production of odours, particles emanate from a body, the quantity of matter cannot remain in this body exactly the same as it was before their separation: the fact therefore proves an extreme but not an infinite divisibility.

The

3rd. There appears to be a limit of animal life in the descending scale, since the gelatinous globule or monas possesses no distinct organs; whilst if matter was infinitely divisible, there would be no reason why we should reach the limit of organization; and it may be considered that it is the fixed size of atoms which determines the condition of the possible in the development of vessels and the formation of the fluids required for circulation.

The same may be said of colours: whatever may be the quantity of water to which a grain of carmine or of iron imparts a tint, if you take a drop of this solution and put it in another and larger mass, the colour will disappear. It might be said that the tint has become so weak that it cannot be perceived, and that matter has still been more divided. I answer that there is no division operated, but that the particles are thrown at a greater distance. If the particles could be divided infinitely, it seems that there would not be any reason why the tint should vanish, since they would preserve the same relation of distance; so that the disappearance of tint forms of itself an argument in favour of, rather than against the finite divisibility of matter.

Moreover, the essence of colours and odours being ultimately resolvable into the substance of simple bodies, the question of their divisibility reduces itself to that of the chemical atom, and therefore does not interfere with the general scope of my argumentation.

4th. The immense disputes upon the infinite divisibility of matter, which appears to have formed the doctrine of the Ionian school in the fifth century B.C.,* have their origin in the circumstance that all the disputants, *pro* and *contra*, have based their arguments on the idea of physical divisibility as it is operated by separating an object into distinct isolated fragments.

This mechanical view leads to a confusion, inasmuch as it introduces into the problem the surrounding space, where the newly isolated particles must be placed in order to operate the division. As there will always be a surrounding space to receive new particles, the mind is induced to ingraft the idea of the infinite divisibility of a fragment upon the idea that there will be space *ad infinitum* to divide it.† But this is an illusion which forms a

* See Cousin's 'Xenophon.'

† Even that severe logician Dr. Clarke could not divest his arguments against Leibnitz from the idea of the surrounding space, for he argued that "the more you divide and subdivide a body, the more the proportions which the pores bear to the solid matter increase." This evidently proceeds

petitio principii. The real question is, whether an undivided body is, *in its own space,* composed of a finite number of particles or atoms, having size, form, and solidity—their tenuity being granted on all hands to be extreme, and inaccessible to our organization? The answer is, that they must be finite in number, not only because they are in finite space, but because, otherwise, there would be no element for the variety of size in bodies. If the smallest and the largest bodies were equally divisible *ad infinitum*, the whole mass of the terrestrial globe would not contain more particles than there are in a small pea!

If the atoms, in a concrete body, are finite in number, they are indivisible unities. I consider, therefore, the question of the divisibility of matter as ultimately solved by the simple exposition of the real facts as above.

This result is only a confirmation of the views of

from the fallacy which I have pointed out, and renders all Clarke's attempts to prove the limited divisibility of bodies ineffectual.

the great discoverer of the law of gravitation, which he expresses in the following terms:—"It seems probable to me that God, in the beginning, formed matter in solid, massy, hard, impenetrable, movable particles, of such sizes and figures, and with such other properties, and in such proportion to space, as most conduced to the end for which he formed them; and that these primitive particles, being solids, are incomparably harder than any porous bodies compounded of them; even so very hard as never to wear or break in pieces, no ordinary power being able to divide what God himself made one in the first creation."

Hume's argument (supported by Sir William Hamilton!), that matter is a cluster of qualities, which being driven off, the substance of matter entirely vanishes, is founded on a fallacy of confusion. This error consists in not distinguishing between accidental qualities, such as sounds, colours, odours, and matter in itself.

Form, size, and hardness ARE NOT QUALITIES. They compose the very essence of matter; and the

doctrine that matter is a cluster of qualities, is only a denegation of the permanent existence of the triangular element which we call matter. An atom is not an ephemeral compound of accidental properties: it is a fixed independent unity, which possesses what it imparts—form, size, solidity.* Other distinctive attributes are attached to terrestrial matter. Thus, particular essential qualities are fixed in carbon, silver, silicon, gold, iron, &c.; and these are, *in the actual order of nature*, inextricably adhering each to the special simple body which they characterise. But they do not compose, of necessity, the substance of matter: they are the marks of the species, whilst the threefold element is at the very basis of all species whatever; since none of them, not even the ethereal atom itself, can be conceived to exist without it. Form, size, and solidity are the real foundation of the atomic centre of forces: if you

* These three attributes may be considered as equivalent to the two primary qualities of Royer Collard, viz., *extension* and *solidity*. (See Sir William Hamilton's note D, p. 844.)

dismiss this, absolutely nothing remains around which properties and dynamic powers, such as magnetism, electricity, or polar phenomena, could cluster and have a ground of existence. We cannot even conceive a centre of forces without attaching to this centre the idea of something substantive, for there could not be a cluster of forces around nothing. Whether we call these centres of forces atoms or monads, since their agglomeration produces concrete matter, they are matter themselves; and Leibnitz's dynamic theory reduces itself in reality to the assertion, that Matter is God.

CHAPTER XIX.

§ LXI. Doctrine of Fichte analysed—That between the sublime and the ridiculous there is but one step—Illustrations showing the complete absurdity of this doctrine—§ LXII. The anonymous author of 'Universal Immaterialism'—His doctrine like that of Fichte—His egregious mistake—That he confounds colour with the idea of colour—Nature of the colouring principle — The importance of iron as such—Simplicity of this writer—Ludicrous consequences of his doctrine—His proposed prize of 100*l.* perfectly inaccessible —Obstinacy of the spirit of system, &c.

§ LXI.

THE doctrine of Fichte may be considered as in many points corresponding to that of Berkeley. This doctrine is summed up in the following passage :—

" The mind itself is the absolute principle of everything; by its original and spontaneous movement it constructs for itself the notion (equivalent to the reality) of an external world; and again, by

its reflective movement, it comes back to the perception of its own personal creation put forth in the whole process. . . . . Thus, at length, the great fundamental question of philosophy—that which seeks to determine the relation of thought and existence—is settled, because *all existence* is shown to be synonymous with thought; and the union of the two notions is found in the spontaneous movement of the mind itself."*

For the truth of these views it would require not only that the world, instead of being a fixed reality, should exist exclusively in thought, but that it should be created and unfolded again and again, as an expansion of the perceptive power of every new-born individual, not only of the human race, but of every being endowed with organs, since there is no possibility of tracing a distinction between the phenomenon of perception in man and in other sense-organized animals. It would require also that the universe should be limited to that which can possibly

* J. D. Morell, 'History of Modern Philosophy,' vol. ii. p. 105.

fall within organic perception; since perception, in this system, is the absolute measure either of the depth of immensity, or of the limits of divisibility of the atomic essence.

However poetical it may be to consider the mind of man as occupied in building his own bodily frame and objective universe, very much in the same way as the caterpillar constructs its own silky envelope, the ludicrous side of this philosophy can hardly fail to offer itself to an unsophisticated mind. Only imagine every organized being creating out of its consciousness the very conditions of its own existence! The eagle inwardly fabricating the hare, or the partridge destined to become its prey! The individual propensities of a number of wild hounds clustering to contribute each its own share to the creation of the deer which is to satisfy their common hunger! Even picture to yourself a subjective mite manufacturing in the depth of its instinct its own objective cheese! The new-born infant originating in the recesses of its nascent consciousness the anxious cares and tender affections, nay, the very

organic existence, of its own mother! And again, the young scion of the English aristocracy begetting out of his own youthful spirit the chivalric achievements of his ancestors, and constructing their decayed bones in the family tomb, by the *spontaneous movements of his own mind!*

Such are, however, the ludicrous consequences of that doctrine which endeavours to absorb all material existence in the pure abstraction of thought. Here we recognise the truth of this maxim of Napoleon, that from the sublime to the ridiculous there is but one step; and we are also reminded of Cicero's sarcastic *dictum*, "There is nothing, however absurd, that has not passed through the head of a philosopher."

In justice to Mr. Morell I am bound to remark that he points out Fichte's error in "intrenching himself *so closely* within the circle of his consciousness, that it was impossible to find any *scientific passage* from thence into the objective world." * But at the same time we must not forget that Mr.

* 'History of Modern Philosophy,' vol. ii. p. 112.

Morell leaves the problem of the real existence of the external world undecided, and intrenches himself, in his turn, in a complete scepticism, which is perhaps not inconsistent with his own Idealistic system, as we shall have occasion to show

§ LXII.

The anonymous author of 'Universal Immaterialism' * reduces the doctrine of Berkeley to the two following points:—

1st. "That the whole sensible universe can exist only within mind."

2nd. "That the universe has not a material substance constituting any portion of it."

The evidence of these two points rests, according to him, upon the following syllogism:—

"Mathematical and scientific demonstrations place it beyond all doubt that colours are sensations, and therefore subsist only within the substance of our minds:"

"Our senses teach us that the colours of visible

* London, Churchill, 1847.

bodies are identically in the same place in which the visible bodies themselves are; common sense forbids us to deny this."*

"Therefore all the visible bodies in the universe subsist only within the substance of our minds.

It does not require a very strong power of penetration to discover that this author, although he does not appear to be aware of the fact, has forced upon his own mind, by a *petitio principii*, the assumption that the whole universe is only a development of our sensations—a doctrine very nearly, if not exactly, the same as that of Fichte. He at first picks up the sensation of colour rather than any other, because he has not gone much deeper than the surface in his scientific knowledge.

There is not a man of science, or even a single tyro in physical or metaphysical pursuits, who will not smile and be astounded at the author's egregious mistake, when he emphatically declares that his proof of the internality of the universe to our mind depends entirely upon *the scientific fact* that "co-

* 'Universal Immaterialism,' p. 23.

lours have been clearly discovered to be things within our minds;" and when he has the assurance to add that "this is a principle now well known to and admitted by *all scientific men*;" and also that "colours, feels, sounds, tastes, and smells are sensations," according to "their *common doctrine*." "I know of no modern writer upon optics," says he, "who has ever pretended to contradict this principle, and most writers even of elementary books *afford illustrations*: it is therefore unnecessary to illustrate it or to demonstrate it here." (!)

The author's error is that he confounds colour with the sensation of colour. Colour is determined by special qualities of bodies, or certain conditions of surfaces and internal molecular arrangements. These conditions give to solid or fluid bodies the property of decomposing the rays of white light, and of appropriating or reflecting and refracting particular rays to the exclusion of the others. Such arrangements are themselves necessarily adherent to the object, and will evidently subsist whether or not there is an eye to appreciate their property of

decomposing light. Colour is due to this property, and it is therefore absurd to pretend that it subsists only in our sensations.

Pure quartz crystals are transparent white; the accidental presence of a small quantity of oxide of iron gives them a yellow tint (Indian topaz); whilst the presence of manganese transforms them into violet crystals (amethysts). There must be therefore something in both metals (whatever it may be) distinct from the principle of sensation itself, which produces the difference between the sensations, and this something constitutes the speciality of their existence.

Iron plays such an important part in the economy of the external world, that it is the colouring principle of almost all the rocks which compose the crust of the earth. It is the colouring principle of plants as well as that of animal blood. So generally does it penetrate the substance of things, that it gave occasion to the pretty phrase of Romé de Lille, "When Nature takes her pencil, it is almost always iron which is on the palette." Since that time man-

ganese has also been found often to accompany iron, or to replace it, as a colouring agent.

Now when the author of 'Universal Immaterialism' pretends that colours exist not by themselves, but only in our sensations, it is the same as if he were contending that iron and manganese have no independent existence out of our eye-sense or mind. This would be all right if the author gave it as his own private opinion; it would only prove that he has fallen in with the superiorly developed system of Fichte, the absurdity of which has, it is hoped, been amply demonstrated in the preceding paragraph. But when he comes in with the bold and repeatedly affirmed assertion, that on this point (viz. that colours, that is, iron and manganese, exist only in our eye-sense or mind) "*all philosophical writers are perfectly unanimous*, and that there is not in the whole circle of science a *more undoubted point*, nor one more universally known," * we can only wonder at his simplicity and rashness. I do not believe that there is in existence a single book

* See 'Universal Immaterialism,' p. 207, 208, &c.

on natural philosophy (except amongst the transcendental Germans) in which colours, hardness, and all the other qualities of matter, are not considered as inherent in the objects themselves, and existing independently of any sensation which they may produce in organic beings.

In the study of the phenomena of light all inquirers proceed on the admission of the reality of an external world; and none but metaphysicians of Sir William Hamilton's, or of the self-styled transcendental school, could ever have dreamt, with Descartes, that colours were pure sensations, or that light was of a spiritual nature.

According to this doctrine [that colours subsist in our sensations only] the mass of metallic iron which has ever passed through the hands of man, being extracted from natural accumulations of the general colouring principle, cannot have any existence except in our organization. And thus the warlike arms and destructive machines which have drenched the earth with human gore, from the Homeric times and the conquests of Sesostris down to the modern

battles fought by European armies, have never had any reality but as idealistic creations of our mental activity, or *direct* and *immediate* developments of the energy of our optical nerves!

Our anonymous *amateur* in metaphysics has proposed a prize of 100*l.* for a fair refutation of Berkeley's doctrine; but this is surrounded with such practical difficulties and complicated conditions, that were the prize ten times greater, it would not be sought after by any sensible writer. For instance, one essential towards winning the prize is, the approbation of the Professors of Moral Philosophy and Logic in the principal universities of Great Britain and Ireland! How is it to be expected that this approbation could be obtained from men who have adopted most of Berkeley's views; or who, at least, consider the real existence of the external world as an insoluble problem? The author shows himself very little aware of the indomitable obstinacy of the spirit of system; and he must also have a wonderful confidence in the self-abnegation of those learned professors, if he believes that, even were the truth made

very nearly manifest to them, they would not catch at the shadow of a chance which could be imagined in favour of their views; and would have the courage to repudiate and disown their own dear doctrine, —to place themselves *face to face* with their numerous followers, their pupils, and the public at large, not only to confess, but to proclaim that the doctrine which they have advocated in their thick octavo volumes, and tenaciously taught, for so many years, with all the heat and fervid eloquence of deep-seated conviction, is in direct opposition to the real truth; and that the best that can be said of the knowledge which they have imparted is, that it was composed of pure sounds; of empty ideas, arranged in fine phrases, of which nothing remains but the vain pomposity of harmonious and elegant periods!

Let the author, if he be animated by a truly philosophical spirit, alter the conditions for awarding the prize; let him allow the question to be decided by six umpires, three of whom should be chosen by himself; whilst the competitors should prevail upon

three of the most distinguished philosophers of England to express their free opinion on the efficacy of the arguments brought forward against the scheme of universal immaterialism. Then the decision would, perhaps, show to the author that his views may be erroneous, and thus he might be taught a lesson which would be for him the commencement of wisdom.

CHAPTER XX.

§ LXIII. That the doctrine of the actual universal unity leads to the philosophy of the eternity of the actual order of nature—Berkeley's Dialogues—His doctrine cannot admit a beginning—Spinoza—Leibnitz, &c.—Fichte judged by Mr. Morell—§ LXIV. Mr. Emile Saisset's doctrine examined—Note on Space and Time—That Mr. Saisset's doctrine is that of no creation—The duality an actual fact—§ LXV. Conclusion of this chapter.

§ LXIII.

THE unavoidable consequence of the doctrine of the *actual universal unity*, which now pervades the whole of the German, French, Scottish, and English metaphysical philosophy, is the corresponding dogma of the eternity of the actual order of nature, or to use the expressions of Hylas, in Berkeley's Dialogues, "that there can be no creation or beginning of existence in finite things."* This, Berkeley is in

* Edinb. Ed. 1837, p. 78.

some manner obliged to grant; for his only argument to prove that his system is not opposed to the doctrine of a beginning, is that "all things had always a being in the Divine intellect;"* that "nothing is new or begins to be in respect of the mind of God;"† and that "things with regard to us, may properly be said to begin their existence, or be created, when God decreed *they should become perceptible* to intelligent creatures."‡

All that follows in the third Dialogue does not refute the objection which Berkeley himself had raised; for, if the external world forms one and the same unity with universal intellect — which is Berkeley's second argument (see § LVIII.), and is implied in the preceding quotations—then the human species itself, as a part of the external world, has, together with the organic kingdom, for ever been in existence. And how could organic beings exist without things being perceptible to them? There is no possibility of admitting the idea of any be-

* Phil., 3rd Dialogue, p. 78. † Ibid.
‡ Ed. cited, p. 78.

ginning whatever without destroying the unity itself.

This is the reason of Spinoza and the Pantheists adhering so obstinately to the dogma of the eternity of the established order of nature.

Those philosophers who admitted of a beginning, and wanted to maintain, at the same time, the doctrine of the universal unity, endeavoured to replace the Duality by an artificial eternal ground, which they imagined as forming the foundation of actual nature. This gave birth to Leibnitz's idea of God being "the primitive unity or the original simple substance from whom all created and derivative monades are produced by continual fulgurations from the divinity;"* and induced this philosopher to look for a proof of the *eternal* existence of man as an animal, even into the most recondite facts of the generative process, and adopt the opinion that the animal *neither begins nor ends* naturally.†

Thus even Leibnitz, to destroy the dogma of the

* Leibnitz, 'Monadologie,' Mr. A. Jacques' Edition, 2nd series, p. 470.

† Ibid., p. 475.

duality of actual nature, was obliged to transform the chemical atom into a spiritual monad,* and to replace the doctrine of a beginning by that of a *continual* creation—an idea borrowed from Spinoza, and which, being sifted, has no more meaning than that conveyed by the expression of uncreated creation, and throws us back into the doctrine of the eternity of the actual order. Besides which, Leibnitz had recourse to correctives analogous to those of Berkeley, and which Mr. Morell has very cleverly resumed;† and after all, he divided his monads into monads composing material objects, and higher monads composing the mind; and as Mr. Morell admits that these two species of monads were absolutely, or *toto genere*, distinct from one another,‡ it follows that in fact Leibnitz, like Berkeley, distinctly reconstructed, against his own system, the doctrine of the duality.

Equivalent to these retrogressive expedients would

* Leibnitz, 'Monadologie,' Mr. A. Jacques' Edition, 2nd series, pp. 463, 479, 480, &c.

† J. D. Morell, 'Hist. of Spec. Phil.,' vol. ii., p. 226 and 227.

‡ Ibid., p. 119.

have been the final doctrine of Fichte, if after "relinquishing his purely subjective position,"* he had clearly marked out the distinction between "whatever we experience within ourselves and whatever we see without,"† or neatly traced a line of boundary between his *two modifications* of the essence of the Deity. That the ultimate tendency of his philosophy was the doctrine of no-creation, there can be no doubt, as may be seen by the judgment pronounced by Mr. Morell, in the following terms—"that such a system of subjective Idealism as we have portrayed could arrive at no conclusions respecting the existence of God, is almost self-evident. If we look out into the universe, what do we see? Simply the reflex of our own being. If we ask after the Creator of the universe, therefore, the answer returned is, that it is created by *ourselves* for the sake of realizing our own self-development. Self being once laid down as the absolute principle of all philosophy, we can never get beyond it, so as to affirm the objective

* J. D. Morell, 'Hist. of Spec. Phil.,' vol. ii., p. 115.

† Ibid., p. 119.

reality of aught, either in the material or spiritual world."*

§ LXIV.

Mr. Emile Saisset, in his eloquent and profound Introduction to Spinoza's Works, considers the question of the creation as that of the relation between the finite and the infinite; and says that "the difficulty for the human mind consists in conceiving the coexistence of the infinite and the finite." But I think that there is an element of ambiguity in the question being formuled as Mr. Saisset has it. Infinite intellect exists in infinite space as well as in infinite time. Finite applies to space as well as to time. And it cannot be denied that we can conceive both infinite intellect and *finite* matter, or, to speak more correctly, infinite intellect and *figured* matter,† as

* J. D. Morell, 'Hist. of Spec. Phil.,' vol. ii., p. 110.

† The expression *the finite* as opposed to *the infinite*, I consider as incorrect, inasmuch as if the *worlds* are as boundless as space, finite things are infinite in number: therefore I shall use for the future the word figured instead of finite.

coexisting in infinite space.* The problem being thus disengaged from the idea of space which obscured it, and even formed a *petitio principii*, since the idea of infinity of space is the generalization of the ideas of partial spaces which are material finite abstractions,† it remains that the difficulty appre-

* See 'Philosophy of Geology,' second edition, p. 41.

† See 'Ideas,' p. 31. To what I have said on space and time in the First Essay, I think it is necessary to subjoin the following remarks.

When Mr. Morell says (p. 395, vol. i.) "To any theory like that of Mills, which places the idea of body, substance, or bulk at the foundation of that of space, there lies the insuperable objection, that we cannot conceive of body at all, except as it exists in space," and that "the conception of body must be posterior to that of space, because the former notion involves that of the latter:" this comes only to the recognition of the fact that space is a condition of the existence of bodies, whilst bodies are not a condition of the existence of space. Granting this for argument's sake, it does not at all establish that space existed previously to or can exist independently of matter, or that it has not been eternally filled up with matter. Suppose all the concrete substance which forms the stellar universe to have been once diffused *through* the ether, both matter and space might still have existed together, with Divine intellect as a substratum, without any anteriority of the one to the other in eternal time or duration.

But

hended by Mr. Saisset in the question of the creation consists in conceiving the coexistence of infinite time and finite (figured) things. But as finite things cannot have been created and coexist with infinite time, it follows that the difficulty which Mr. Saisset has raised is only the difficulty of conceiving that which is logically inconceivable. For this reason

But whether space existed anterior to matter or not, has nothing to do with the question whether we acquire the idea of space before that of body, or that of body before that of space. Because space is a condition of existence of bodies, it does not follow that our idea of space is first logically or chronologically in our mind—less that it is an *à priori* INTUITION.

Mr. Morell's error is the same as that of Dr. Whewell, that of taking our idea of the thing for the thing itself.

The same argument applies to time considered under the point of view of *eternity*. Because duration is the condition of events succeeding each other, it does not follow that the *idea* of duration exists in our mind before we perceive the events which measure duration.

If events are independent of ourselves, time exists independent of our idea of time. If it is true that our knowledge is acquired by successive reports of the senses of external things and motions, it is evident that it is the outline and motion of particular objects which develop the general idea of the *media* in which they are contained and move.

there cannot have been, in his view, any beginning or creation: a doctrine which, besides, appears clearly to result from the general scope and bearing of the fifth chapter of his Introduction.

The argument above will perhaps appear very recondite, but, if carefully examined, it will be found correct.

If these considerations had occurred to Mr. E. Saisset's mind, he would, no doubt, have abstained from using certain hasty expressions which form a painful contrast with the good taste and elegance of his usual style.*

The duality of mind and matter is an actual fact; and I think Mr. Saisset speaks inconsistently when he says "the problem is to know if the world is really distinct from God, and thus the work of his will;"† whilst, on the other hand, he had previously

* Let Mr. Saisset consider the strange contrast which his views form with Mr. Cousin's wise remarks quoted before, p. 187.

† 'Spinoza,' Paris edition, 1842, introduction by E. Saisset, p. lxxix.

affirmed that "between Pantheism and the theory of the creation, the perfect unity of the first principle are agreed points." *

By the first of these propositions it would appear that the problem of the creation is the very problem of the duality in opposition with a single existence, or pantheism; whilst, by the second, it is pretended that both the theory of a creation and pantheism agree on the *single existence* or perfect unity of the first principle. The first argument leaves the problem of the duality an open question, whilst the second considers it as decided.

§ LXV.

To conclude this chapter, I have only to remark that it must be now clearly understood that the dogma of the *actual unity* of mind and matter, whether advocated under the form of materialism or spiritualism, involves the doctrine of no creation, or,

* 'Spinoza,' Paris edition, 1842, introduction by E. Saisset, p. lxviii.

which is the same thing, of the eternity of the actual course of nature.

This in truth is, at the present time, either the avowed or the esoteric doctrine of most of the German and French philosophers; and the Scottish and English schools of spiritualists, still pursuing Kant's fallacy, cannot avoid the necessity of deducing the same logical consequences from their idealistic intuitional system. A beginning is possible only in the doctrine which admits, in the actual system of the world, intellect and matter as two distinct principles.

That the *external world* has been formed and is regulated by the *infinite mind*, implies the separate existence of both these principles—the latter as the cause, the former as the effect.

Notwithstanding these necessary relations of supremacy and dependence, the universal intellect exists for the human understanding and reason, as distinct from the figured world as light exists by itself, independent of the concrete bodies immersed in its essence; and, to use a figure which I have long

accustomed my mind to consider as most approximate to the truth, the omnipotent WILL has *his* immanence in the substratum of the infinite and all-pervading ether.

CHAPTER XXI.

§ LXVI. The modern doctrine of Intuition—Mr. Morell's process of argumenting—General view of his philosophy—Tries to place the source of our knowledge beyond the reach of logic—§ LXVII. Exposition of the author's personal view of the Mental Element—Mind a real entity—Proof that the soul is not identical with the Idea of Causation—Mind a spark of the Divine essence—§ LXVIII. Mr. Morell's four stages of human consciousness—Analysis of his views on Perception and Intuition—§ LXIX. Refutation of this doctrine—Its result is to sink the soul entirely into the senses.

§ LXVI.

I SHALL now examine the modern doctrine of *intuition*, as it is advocated in recent publications, particularly in Sir William Hamilton's *Philosophy of Perception*, and his *Notes to Thomas Reid's Works;* and in Mr. Morell's writings, *The History of the Speculative Philosophy of Europe in the Nineteenth Century; Lectures on the Philosophical Tendencies of the Age;* and the *Philosophy of Religion*—works which it is not possible to peruse

ithout being impressed with the vast erudition displayed by both the authors, against whose acuteness it is so much more difficult to guard, seeing that their views are always protected by the brilliancy of the forms which they borrow from their great analytic talent and command of eloquent language.

The process which Mr. Morell follows in his argumentation consists in continually exalting the powers of the mind and weakening the importance of the sensational element of our ideas, until at last the senses are reduced to an evanescent channel of communication between the external world and the soul. The external world is admitted as real only *practically*, for the sake of argument, since Mr. Morell keeps himself within the bounds of a complete scepticism as to its real existence. Then even this *hypothetical* external world is contemptuously looked upon as a chaotic mass of shapeless matter, of which it is the business of mind to harmonize the parts. The soul is brought into immediate contact (face to face) with the hypothetical matter, to which it gives a form. Hence in Mr. Morell's idealistic (pre-

tended eclectic) speculations we can recognise, clustering together, as it were, the incertitudes of scepticism, the nihilism of Kant, and the spiritualism of Berkeley, Leibnitz, Fichte, or Hegel. But although, beyond the tendency to pure idealism, there is not a substantive idea pervading the whole and giving to the system a well-defined shape, it has this peculiar feature, that, in his doctrine on intuition, Mr. Morell distinctly aims at placing the source of our knowledge beyond the reach of logic.

It is this Kantian fallacy that I feel particularly called upon to oppose, in showing that the logical process, or the syllogism, is not only, as Dr. Whateley describes it, the *universal principle of reasoning;* but that, so far from our ever having any direct intuition of anything objective, the syllogism is the very and the only process through which our mind, feeling, or grasping sensations, arrives at giving a definite form to any idea whatever.

§ LXVII.

Before proceeding in my examination it becomes

necessary to put in a clear light my personal view of the mental element which is brought in parallel with, or opposed to, the external world.

My opinions on the reality of the objective universe being sufficiently developed in the preceding chapters, I have now to add a few remarks to what I have already said, in my First Essay, on the Mind, as the subjective principle of our knowledge.

First, then, I fully admit, with Mr. Morell himself, that "to talk of knowing *Mind* beyond the direct consciousness of its *spontaneous being*, and all the affections it can undergo, is absurd."* I do not contest that the expressions "spontaneity, personality, will, self," and all similar words, express as nearly as possible the essential nature or principle of the human mind.† I consider, however, Mind as a real entity; a principle existing in the human frame, but entirely distinct from the frame itself. This principle, as I have already said, is at the same time

* J. D. Morell's 'Hist. and Crit. View of Spec. Phil.,' vol. ii., p. 53.

† The 'Philosophy of Religion,' p. 3.

active and passive—active when it originates an impulse; passive when it receives impressions from the objective world, comprising the individual's own bodily organization. Here I stop: it is in vain for me to try to go farther. When I reach the idea of the consciousness of my consciousness,* I cannot possibly decompose and analyse any more.

If, following Mr. Morell in his *intuitive* efforts, I endeavour to acquire the knowledge of "the affections which my mind can undergo," I cannot possibly discover anything whose materials have not been introduced into and incorporated with the mental unity by the perception of the external world; for the consciousness of its own consciousness is the only view in which the mind, standing opposite to itself, is at once subject and object.

In transforming this idea, the consciousness of our consciousness, first into a force, then into a cause, and, in a still further activity, a real *spontaneous existence*, a *noumenon* (of which the principle of

* See First Essay, p. 25.

causation is a form or determination),* the whole of the French idealists, comprising Mr. Cousin, Jouffroy, Mr. Saisset, Mr. Jacques, and others, with Mr. Morell himself, have thrown no light whatever on the intrinsical nature of the soul; and I do not see that anything more satisfactory has ever been imagined than Aristotle's Metaphor, that the soul is as it were a hand, the hand being the organ of organs—a figure which does not explain the nature of the soul, but only illustrates, by a comparison, its manner of acting. Here the subject is exhausted, for even in the highest development of the Mind, the WILL, we cannot go farther than the bare fact.† We know our own will only as the antecedent fact of our movements. We have the consciousness of both

* Morell's 'Hist. of Spec. Phil.,' p. 54 and 55, vol. ii.

† In Sir William Hamilton's phrase "we possess the power of willing what we will," the second member is only an emphatic repetition of the first: the "power of willing what we will," has no more meaning than "the power of willing," since it would be mere nonsense to say that *we have not* the power of willing what we will. This redundance, therefore, cannot find its place in an inquiry on the nature of the will as the mental unity.

the will and the movements in the same manner as we have the consciousness of two facts, as antecedent and consequent. The mind grasps its own faculties or powers—that is all that we know about it; the *Will* is the antecedent fact, the movement the consequent fact. The proof that the substantive thing itself, which we call either reason, understanding, mind, soul, or will, is not identical with the idea of causation, and that this idea is developed by the observation of the connexion between the will and the movement, is, that the will ceases to be a cause and becomes a mere nonsensicality as soon as it commands an impossible movement. For instance, if the will orders the body to rise in the air, or to shrink into a microscopic size, or to become invisible, the idea of cause is not generated in our mind. Hence the will is only a cause inasmuch as it is followed by an effect; and, effects being circumscribed in the limits of the possible, it follows that, far from being the principle of causation itself, the human will is no more a cause than any other cause, or that between the will and its effects there is the

same relation as between antecedent and consequent facts.

Fire melts lead.

Will moves the arm.

In each case the *first object*, called *the subject*, is a cause, but only because it is an antecedent fact. Drive off the consequent facts, there will only remain two naked, isolated, substantive ideas, fire and will. It is simply the connection of either of these with a consequent fact which makes them causes. All our knowledge, therefore, of our own mind reduces itself to the bare recognition of its existence as a thinking unity, the *cogito ergo sum* of Descartes taken as an assertion, not as an Enthymeme.

Notwithstanding his persevering efforts to transform this unity or *Ego* into the principle of causation, Mr. Cousin himself confesses the inefficacy of this view, when to the objection that "resolving perception into the principle of causation is to explain a mystery by another mystery," he

answers only that "from explanation to explanation we must come at last to something unexplainable."*

But on the other hand, although I do not reach the essence of the intellectual principle, I cannot help believing that there is a real entity forming the ground of my mind; and in this I differ from Sir William Hamilton, who contends that "absolute existence is to us a zero;" and that "whilst nothing *is*, so nothing is known to us, except these phases of BEING which stand in analogy to our faculties of knowledge."†

If we admit a material atomic element around which chemical properties cluster, why should we refuse to recognise the parallel existence of a real basis of mental phenomena? If existence were absolutely and in itself a zero, how can there be a BEING? As for myself, I cannot conceive possibly how faculties, affections, or qualities could cluster

* Cousin's 'Cours d'Histoire de la Philosophie,' Paris, 1846, vol. iv., p. 426.

† The 'Philosophy of Perception,' Edinburgh Review, vol. lii., p. 168.

around nothing. When it is said that a thing "exists since it is known, and is known because it exists,"* the first part of the proposition is simply *Berkeleyism;* the second part is a fallacy, because the fact of being known to us is not the condition of existence of a thing. It remains, therefore, to consider the human mind as a simple indecomposable unity—a spark of the Divine essence attached to an organic envelope, through which it enters into communion with the external world.

§ LXVIII.

In establishing his four stages of the human consciousness,† Mr. Morell assumes that the *primary* state of man is "a purely ideal state;" that "if the infant could be a philosopher, it would agree with Fichte, that it constitutes of itself the whole universe, and that every phenomenon it beholds is the creation of its own subjective nature."‡ As the child's organization developes, a second stage of

* The 'Philosophy of Perception,' Edinburgh Review, vol. lii. p. 169.

† 'Philosophy of Religion,' p. 5. ‡ Ibid., p. 9.

consciousness manifests itself, in which "the mind attributes the impressions it experiences to the existence of external things,"* and this stage is said to be "diametrically opposite to the first stage;" for the subject (or primary state) and object (second stage) stand "face to face with each other, through the medium of the bodily organism." This is perception. But "perception," it is said, designates the direct and immediate cognizance of an objective reality—of a *thing*. As such, it, of course, implies that we possess some kind of comprehension of the primary qualities of all body—that we grasp intuitively the main attributes of the material world. In this case, however, our cognizance of these attributes is spontaneous, unreflective, and confused; we comprehend the object presented to us simply as a whole, but we do not analyse it: that is, we do not separate its attributes from its essence, and contemplate them apart, numbering the qualities it exhibits, and making them into abstract ideas. . . . . The mere perception, for example, of a horse, a stone, or a tree,

* The 'Philosophy of Religion,' p. 10.

would only imply the momentary consciousness we should experience, in knowing intuitively the presence of such concrete objects apart from ourselves; it would by no means imply the abstract idea which those words now designate, and in which sense alone they may be regarded as forming some of the elements of our accumulated experience."*

Here comes the third stage, or logical *consciousness*, "which gives us clear and reflective conceptions of things." This third stage involves the various mental processes, called memory, conception, imagination, comparison, abstraction, generalization, definition, division, judgment, and reasoning.

This logical consciousness "is entirely *subjective* and *formal*. The *material* with which it has to do is wholly given in sensation and perception."†

These views are more fully developed in the *Lectures*, where Mr. Morell, adopting Sir William Hamilton's theory of intuition, previously advocated under the symbol of apperception, by Mr. Cousin,

* 'Philosophy of Religion,' p. 13 and 14.

† Ibid., p. 16 and 44.

who deduces it from Reid,* maintains that through the perceptive consciousness we obtain only the knowledge of the matter of external objects, whilst the form is furnished by the logical consciousness.

In his last work, from which the preceding quotations have been extracted, Mr. Morell appears not very consistent with his former opinions; but as, notwithstanding his staggering, he still makes great efforts to retain his position, I must quote his previous work in order to oppose his speculations with more effect.

"I will suppose," says Mr. Morell, "the object of perception to be a tree: I may stand and gaze at this tree, simply as a beautiful object of contemplation: this is a direct perception—I know immediately that the real concrete thing on which I am gazing is before me;"† "this direct, immediate, and presentative knowledge is what we term *knowledge*

* The germs of this theory can, however, be traced as far back as to Pythagoras, and it forms also a prominent part of the speculations of the Alexandrian school: Mysticism and Ecstasy are its very basis.

† 'Lectures,' p. 75.

by intuition."* "Perception can alone bring us into contact with the actual matter of the world around us; while the understanding (the logical consciousness) alone gives our knowledge a reflective form."† "This is the case with all the sciences, for the law is universal."

§ LXIX.

The first remark which is suggested by the doctrines exposed above, is how it is possible for a philosopher who holds the decided opinion that the real existence of matter, or the external world, "is not demonstrably true" (see § LX.), to enter at all into such speculations? If Mr. Morell is not certain that matter exists externally to the human mind, how can he affirm that there are two distinct sources of the idea of an object—the one in the mind, the other in the external world; or that the matter of a tree is furnished by the external world, whilst the form is given by our understanding? If we cannot possibly assure ourselves that the whole of

* 'Lectures,' p. 74. † Ibid., p. 77.

a tree is not a simple creation of our own idealistic power, how can we make it a problem to know if half the tree (the form) is given by our mind, whilst the other half (the matter) exists really in an external world? This first objection is of itself unanswerable.

The second fallacy in Mr. Morell's doctrine of sensible intuition is the same which I have pointed out in the First Essay.* We cannot have the idea of matter without form, because form is not a quality, but one of the unabstractible elements of matter—an absolute condition of its existence. Let Mr. Morell, in support of his arguments, describe to us a fragment, a parcel, or a quantity of matter without form; or even simply demonstrate that we can conceive matter void of form. Let him explain what kind of beauty we can contemplate by gazing at a tree, if it is not in the elegance of its shape; and then we will at once submit and accede to his doctrine.

Instead of it being the matter which we first perceive in external objects, it is in reality the form.

* See p. 48, § XVI.

Why do we find a difference between a tree and a bird, a bird and a fish, a fish and an orange, an orange and an egg, &c.? The matter of all these objects science demonstrates to be identically the same; and what can be the first thing which makes each of them distinct in our mind, if it is not the form?

But the general and striking defect of these views is that they are artificial arrangements framed only to support the author's idealistic tendencies.

Since Mr. Morell, together with Sir William Hamilton, admits that perception takes place "through the medium of organization," what can they mean by calling perception "direct intuition," and considering "our knowledge of the external world" as "immediate and presentative"?

What can be more manifestly contradictory than such assertions as the following? "The objective reality is apprehended *at once* BY THE DIRECT INTERCOURSE which the mind enjoys with surrounding nature BY THE AID OF ITS MATERIAL ORGANISM."*

* 'Morell's 'Philosophy of Religion,' p. 36.

How inconsistent is it not to affirm that the intercourse with the mind is direct, when this very assertion is followed by a full admission of the indispensable agency of the senses! Such an abuse of language cannot fail to be observed even by the most superficial reader. Intuition, to be direct, that is to say for the subject to stand face to face with the object—for the soul to be in immediate contact with a tree or even the matter of a tree—should dispense entirely with the channel of the senses, otherwise the doctrine is a mere verbal fallacy, since, the relation of the mind with a tree taking place through the senses, all that can be perceived in the argument is that the word *intuition* has been substituted for the word *perception.*

When you make perception *immediate* and *presentative* instead of bringing the subject or the mind face to face with the objective world, you drive out the mental independent unity: you transport the understanding to the external extremity of the organs, and actually sink the soul entirely into

the senses. Sir William Hamilton's doctrine finally leads to these ultimate consequences.

Indeed I cannot find any other meaning in the assertion that "the subject of sensation may be indifferently said to be our organism or our soul."* This point, however, I will examine in the doctrine itself.

* Sir William Hamilton's note D*, p. 884.

CHAPTER XXII.

§ LXX. Sir Wm. Hamilton's 'Philosophy of Perception' examined — Objections — § LXXI. That this philosophy receives very little support from the authorities quoted by Sir William—His prejudices in favour of pure Idealism— § LXXII. Examination of his division of the qualities of matter—That his doctrine is founded on a confusion between Sense and Mind—It leads to pure Materialism.

§ LXX.

In his '*Philosophy of Perception*' Sir William Hamilton contends that consciousness is not one of the modes of our mental activity, but "the generic condition of them all."* If this is considered in conjunction with the learned Professor's opinion that *absolute existence is a zero, and that nothing is*,† the conclusion cannot be avoided that the qualities of the mind clustering with the sensation

* 'Edinburgh Review,' vol. lii., p. 163.

† The 'Phil. of Percep.,' Edinburgh Review, vol. lii., p 168, quoted p. 237.

(or qualities of matter) form the only element of consciousness, and that therefore there is not a substantive thing, not even thought (as in Hegel's doctrine), forming the substratum of the understanding.

To condensate the qualities of the subjective principle, Mind, and our sensations of the external world into one single principle, forms the real object of Sir William's 'Philosophy of Perception,' as developed in the 'Edinburgh Review,' vol. lii., and in his notes to Thomas Reid's Works.

"When I concentrate my attention, it is said, in the simplest act of perception, I return from my observation with the most irresistible conviction of two facts, or rather, two branches of *the same fact*— that I am, and that something different from me exists. In this act I am conscious of both existences in the same indivisible moment of intuition. The knowledge of the subject does not precede nor follow the knowledge of the object, &c." *

* 'Edinburgh Review,' vol. lii., p. 169. See also note A. to Reid's Works, p. 747.

To this I oppose, *Firstly*, That material or sensible perception is, at first, passive and sensuous, but distinct from the act of concentrating attention. Perception only becomes a mental phenomenon when the mind takes active cognizance of an external object; for, in the usual course of life, conciousness does not notice any object within the reach of the senses, except those which relate to its particular mode or modes at the time. We are often unconscious of what is going on around us when we are intent on a particular pursuit. The author of this book, for instance, has a partner in life who sits opposite to him whilst he is arranging his ideas, and he is often unconscious of her presence, although his eyes may be directed or even intensely fixed upon her. He may, like Sir Wm. Hamilton himself, sit for hours together in his study, without being conscious of the existence of the walls and of all the material objects which surround him; nay, it is very seldom that he will think that there are in existence sheets of papers, quills and ink, which help him in this work, although he could

not use these things if he did not actually perceive them.

Perception, therefore, is, to a great extent, independent of consciousness; and in making material or physical perception equal not only to consciousness, but to *concentrated attention*, Sir William has introduced into his premises an element of fallacy which vitiates the whole of his views.

Secondly, So far from the knowledge of the ME, or consciousness, and that of the NOT ME, or external world, being two indivisible parts of the same fact, the very circumstance that we *concentrate our attention* proves that the ME and the NOT ME are separated by something real between them; that is, by the senses which excite the ME to act, or to appropriate the NOT ME.

Thirdly, It is evident that *practically* we do not acquire a knowledge of objects which are not perfectly familiar to us (or previously known) instantaneously, and without an intensity of attention and examination requiring a sensible time, during which the agency of the logical power is perfectly appre-

ciable, as distinct from—superior to—and guiding the perception of the senses; and *theoretically*, there may be as wide a hiatus of time (although inappreciable) between perception and consciousness, as there is an incontestable duration in the movement of a ray of light which conveys a sensation from a terrestrial object to our organ of sight.

§ LXXI.

In his searching historical investigations on the division of the qualities of bodies into primary and secondary, Sir Wm. Hamilton can scarcely find a testimony in support of the doctrine that sounds, odours, colours, &c. do not exist in the object, but are affections of the senses.

The passages that he mentions cannot be made to bear, in reality, upon this doctrine. The expressions employed by the philosophers alluded to are evidently intended to mark a clear line of distinction between the general or essential attributes of matter, and the specific or non-essential qualities. All of them, with a single exception, do not doubt

that the power of exciting the sensations resides in the external object itself. Galileo appears the only one who enounces the opinion that tastes, odours, and colours reside in the sentient subject exclusively. All the others, and even Duhamel, who says "Tolle animalia, nullus erit sapor, nullus odor," do not evidently affirm anything more than Aristotle, viz., that there is a distinction to be made between the affection in the subject and the cause of the affection in the object; and I cannot but consider it as an entirely unjustified assertion that "on the general doctrine of these philosophers (viz. Descartes, Locke, and others), both classes of qualities are confessedly only states of our own minds."* The same must be said of Sir William's judgment on the pretended incongruity of Reid's doctrine; viz., that if Reid's expressions were rigidly interpreted, Sir William might find "a plausible argument that his theory of perception is as purely subjective, and therefore as easily reducible to an absolute idealism, as that of any of the philosophers whom he contro-

* Note D, p. 840.

verts."* This judgment is not in the slightest degree justified, even by the insignificant quotations which Sir William produces in support of his bold affirmations: these quotations can only borrow an idealistic character from the elasticity of a mind so prejudiced in favour of pure idealism as that of Sir Wm. Hamilton himself.

§ LXXII.

In the beginning of his exposition Sir William establishes between the primary and the secondary qualities a distinction which, at the first sight at least, appears purely physical.

The doctrine of "real Presentationism [it is said] the basis of Natural Realism, asserts the consciousness of certain essential attributes of Matter, *Objectively existing*,"† whilst it admits that "other properties of body are unknown in themselves, and only inferred as causes to account for certain subjective affections of which we are cognizant in

* Note D, p. 842. † Note D, p. 825.

ourselves;"* and he concludes his elaborate first paragraph by saying that the distinction of these different classes of material qualities "has no real importance, no real foundation in any philosophy but that of Natural Realism."†

Let us examine, then, upon what principles this distinction is founded, and what may be its importance in the Philosophy of Natural Realism.

The learned Baronet divides the qualities of Body into three classes in place of two, namely, primary, secondo-primary, and secondary or subjective.‡ But instead of developing his premises that certain essential attributes of matter exist objectively, he now declares that the general point of view, from which he considers the qualities of matter, is not the physical, but the psychological. This is deciding the question of the real existence of matter by a *petitio principii*. For we have seen that Sir William considers matter as a compound of qualities, without any real basis or substratum whatever; hence it is clear that when these qualities are admitted only as

* Note D, p. 825. † Page 845. ‡ Ibid., p. 846.

psychological phenomena, matter cannot have any real existence.

Then this psychological or *pseudo-matter* is divided into two branches—that of sense, and that of understanding.

The primary qualities, such as space and extension, may be deduced *à priori;* but as it is granted that these qualities are only "evolutions of the conditions which the notion of matter implies,"* it is evident that this affirmation of a pretended deduction *à priori* is a pure paralogism.

Now come the secondo-primary qualities, such as co-attraction, repulsion, inertia†—which are contingent modifications of the primary.

The third class is composed of the *secondary* qualities. These are, in propriety, no qualities of body at all;‡ they are the proper sensibles, viz., colour, sound, flavour, savour, and tactual sensations; and exist only as affections of our nervous organism.§ From the development of these views Sir William

* Page 846. † Page 848.
‡ Pages 853, 854. § Page 854.

brings out, in his note D*, the following *momenta.*

"All perception is an act of consciousness."*

"It is impossible to discriminate, *with any rigour*, SENSE from INTELLIGENCE." †

"I hold that sensation is an affection neither of the body alone, nor of the mind alone, but of the composite of which each is a constituent; and that the subject of sensation may be indifferently said to be our organism or our soul."‡

What is, then, the use of having so laboriously established a distinction between the qualities of body, as the foundation of the pretended philosophy of Natural Realism, when, in fact, all these distinctions disappear before the sweeping doctrine that they are, every one of them, absorbed in the general mode of our mental activity or consciousness, which comprehends both sense and intelligence?

Sir William Hamilton's doctrine of perception is evidently founded on a forced systematic confusion

* Page 878. † Ibid. ‡ Page 884.

between the distinct attributes of the senses and the mind.

The qualities of matter are represented as mere phantasmagorical existences, resting on nothing real, and playing along the whole extent of the nervous system*. Even physiologically, the doctrine is a misrepresentation of facts.

The functions of the central apparatus are not distinguished from those of the external extremities of the nerves; and in the same manner as there is nothing objective really offering resistance to these extremities—the external world being but a development of their intrinsic activity—so there can be nothing as a substratum of the brain. "We cannot [it is said] discriminate sense from intelligence." But if only one principle exists for both manifestations, then intelligence must be absorbed into sense. For the existence of the senses rests upon the most direct, immediate, irrecusable evidence.

Such are then the undeniable consequences of

* See Reid's note D., p. 863.

Sir William Hamilton's doctrine of perception. If perception is direct and immediate, the idea of harmony has no deeper seat than the ear; that of colour is settled in the eye; the idea of substance resides at our fingers' ends; that of taste in the tongue; whilst the idea of odour is concentrated in the nose. Thus, in adopting this doctrine, Mr. Morell, far from establishing his philosophical ground on the idealistic element, plunges headlong into the most rigid materialism.

CHAPTER XXIII.

§ LXXIII. The Logical Power — Its regulating functions restored—The senses the condition, *sine quâ non*, of perception—That logic presides over the fact of distinct sensation and perception—First act of the reasoning faculty a Syllogism—§ LXXIV. That the logical faculty is involved in the errors of our senses, shown by a Syllogism — That both logic and the senses rectify their mistakes—That logic is consciousness itself.

§ LXXIII.

In opposition to these, so-called Idealistic, but in reality, empirical views, let us restore to the logical power its own all-regulating functions.

The manner in which perception is accomplished is as much *ignored* as the nature of the mind itself: whether there is really a small image produced in the phenomenon, or not, is immaterial. The senses are the condition, *sine quâ non*, of perception. Whatever may be the words used to represent their relation with the external world and the mind, whether they are said to receive an impression or to

produce an image, these expressions are only figures or metaphors which assert the reality, *not the nature*, of their agency.

Because the first impressions are vague and indeterminate on the infant's mind, and because it is only after many confused impressions that he can idealise the parts of the external world, and have the consciousness that natural objects are isolate and distinct from each other, we are not authorized to separate into definite stages the successive development of the mind, and to create arbitrary oppositions in the uninterrupted succession of this development; much less to divide it into two, or more, antagonist movements. The opposition which really exists is not, as the author would have it, between the idea of self (in the infant's mind) and the external world, but between the mind itself and the external world; since the *me* and *not me* exist before we have the idea of either. The idea of self, besides, can only be considered as developed by objective reflection; since the theory of innate ideas is now confessedly exploded.

That perception is not, at first, and for a time, accompanied by a well-defined state of consciousness, is not a reason why it should be considered, in the infant, as equivalent to an *intuitive condition*, nor in the adult to a *direct intuition;* much less a proof that the pretended second stage is followed by a third *clearly* circumscribed stage, in which the *Logical faculty* begins only to display its power.

Logic presides over the fact of distinct sensation and perception at any stage of development.

The forms and other attributes or qualities residing in the objects themselves, the function of our senses is to bring us into contact with these forms and qualities. In proportion as our organs become more mature and complete, we perceive these objects more distinctly; and as the logical powers become cultivated and extended by more frequent and detailed perceptions, we are, at last, enabled to recognise and to classify the special attributes and particularities of external things.

The first act of the reasoning faculty will be a confused distinction between personal individuality

and surrounding objects; which distinction will become more definite as organization progresses towards perfection. But even this first knowledge will be acquired by the agency of the logical power.

All that I can always reach is ME:

This finger, this hand, this arm, &c., I can always reach;

Therefore it is ME—and the converse.

All that I cannot always reach is NOT ME:

This thing I cannot always reach;

Therefore it is NOT ME.

§ LXXIV.

When it is remarked that we cannot trust our senses to pronounce a judgment, because they often deceive us, and that therefore they cannot be a safe ground of truth,—we will go farther than this, and say that it is not only our senses which deceive us, but that the logical faculty itself is always necessarily involved in our errors. Thus, suppose an iron tree, with trunk, branches, and leaves, to stand before us at a distance.

From the first report of the senses the syllogistic capacity will say,

All things with trunk, branches, and leaves are natural trees;

This thing has trunk, branches, and leaves;

Therefore it is a natural tree.

Here it is evident that the form is the first quality which we perceive, and that the logical faculty cannot recognise the matter; therefore it is the logical faculty which is deceived, even more than the senses themselves.

But it does not follow from this, that there is for us a ground of truth independent of our senses and logical faculty: it shows only that we are liable to error. The mistake can be rectified through the channel of the senses and logic. Thus, if we examine the tree with more attention, we shall recognise, through our senses, that it is an artificial tree, for the logical power will then say—

All natural trees are composed of wood;

This tree is not composed of wood;

Therefore it is not a natural tree.

It results from this that logic is the faculty which apprehends sensations and shapes them into ideas.

Because truth is difficult of access, and cannot be obtained but by renewed efforts, we are not justified in supposing that there is in us a higher faculty, through which we become directly and immediately acquainted with the real essence of things. It is evident, not only that the function of the senses and logic is to take cognizance of external objects, but even that all ideas draw their origin from the concomitant agency of both; and if, through them, wrong notions have been introduced in our minds, it is in them that we must place the ground of rectification of all material errors and fallacious generalizations.

The sight of the sun and the night-sky makes us think, at first, that the stars and the sun turn round our earth; but more attentive examination has shown that this appearance is as fallacious as that of the bank of the canal, which seems to glide from our view, whilst we are, in reality, moving ourselves on the smooth waters.

Our errors are corrected by the successive improvement of our organs, by accumulated experience, and the concurrent application of the logical power to these improvements, which give us a deeper and truer insight into the relations of perceptible facts.

Far from being developed as a third stage, posterior to two supposed previous stages, Logic coexists with the nascent unity of the mind, and accompanies it in all its developments. Logic, in fact, is the effort of the soul to discover the relation between objects: it not only involves the various mental processes—memory, conception, comparison, &c.—but it is the very thing that grasps the attributes of the material world; and in considering this faculty as an intuitive consciousness, Mr. Morell has involuntarily granted a point which is fatal to his scheme. Logic is consciousness itself—the whole ME, or the mind, taking hold of an object of contemplation, entwining it in its folds, mastering the complexity of its attributes, and deciding to what previous impression or sensation it corresponds; or, if it is something new,

keeping and hoarding it in store for future classification.

We are now prepared to consider Mr. Morell's fourth stage of consciousness, and this forms the object of our next chapter.

CHAPTER XXIV.

LXXV. Mr. Morell's fourth stage of consciousness — A higher kind of Intuition, or higher reason— § LXXVI. Schelling's doctrine examined—Its defects—That it makes existence unintelligible — § LXXVII. Analogy of Mr. Morell's higher intellectual consciousness with Schelling's intellectual Intuition—Examination of the doctrine in itself —Its fallacy—§ LXXVIII. That the principle of higher Intuition falls into the range of the logical faculty—§ LXXIX. The doctrine of Mr. Cousin, that reason is not personal, reduced to a Syllogism—Its fallacy—§ LXXX. The doctrine that these Intuitions are not individual, but belong to mankind as a whole, examined—that this doctrine is mystical—contradictions in Mr. Morell's views—their inconsistency, and the oversights which they contain—that they are in contradiction to *original* common sense — § LXXXI. That we gain nothing by denying the evidence of our senses and mind—Ambitious views of the Idealists—That metaphysics cannot be achieved, and is nothing but a maze of confusion.

§ LXXV.

In the same manner as the mind stands in immediate communication with the physical external world, so, by a "higher kind of intuition, we are brought in

contact with higher or spiritual truth;"* for, according to Mr. Morell, there is the same relation between the higher reason and higher truths, as between the understanding and material objects; that is to say, that *the matter* or the *concrete basis* of these higher truths is given by intuitional consciousness, and *the form* by the logical consciousness.†

§ LXXVI.

But before proceeding in this inquiry, let us examine the doctrine of Schelling, which, notwithstanding its analogy to the above views, Mr. Morell himself condemns and rejects.

According to Schelling, the great organ of philosophy is *intellectual intuition*, which occurs through a "higher spiritual sense," the "eye of the mind," and with the assistance of which we gaze upon the eternal principle, from which both ourselves and the external world proceed; or upon "the infinite," the

* Morell's 'Lectures,' p. 74, 75, 76, and 'Philosophy of Religion,' p. 36.

† 'Philosophy of Religion,' pp. 46, 53, 54, &c.

"only real and eternal existence," which "comprehends both subject and object."*

The first defect which strikes us in these views is that the existence of such a higher organ, in direct communication with the universal principle of things, rests upon pure affirmations without any proofs; and that, therefore, they can be rejected simply on the plea that they are the fanciful sports of a poetical imagination.

This Mr. Morell fully recognizes, when he asks "where is our guarantee for the validity of the intellectual intuition principle, upon which the whole truth of the system rests, and without which, as Schelling acknowledges, no one can take one single step into his philosophy?"

But, besides these objections and many others pointed out by Mr. Morell, from the Memoir of Mr. Willm, and from his own judgment, it is evident that if we suppose that to obtain a knowledge of our own mind, it requires the existence of a higher distinct spiritual sense, different from the mind itself

* 'History of Philosophy,' vol. ii., p. 126.

a still more elevated principle would also be required, through which we could discover the existence of this higher organ, which is supposed to form the substratum of the mind; and also, to know this would again require another still higher principle; so that the ME would sink into a series of *substrata*, whose only functions would be to lie under one another *ad infinitum*—an absurd supposition which, instead of explaining the problem of existence, makes existence itself absolutely unintelligible as a reality.

§ LXXVII.

But, although Mr. Morell rejects the intellectual intuition of Schelling, it is incumbent to remark here, that the principle which he calls "a higher intellectual consciousness" is something very similar; the only difference appears to be that this last is only a superior development of the mental unity, and does not form a higher spiritual sense, as in Schelling's scheme: a distinction which seems to be merely verbal. Hence the objections against Schelling might be urged also against Mr. Morell's scheme.

I shall not, however, lay too much stress upon this, and will examine Mr. Morell's views in themselves.

"There are, it is said, *at least* three spheres of thought, to which the human consciousness attains, and which all lie beyond the region of mere perception and mere understanding; and these are—the beautiful, the good, the true." These spheres are only accessible "to that *higher intellectual consciousness*, which transcends the limits of sensuous phenomena, and comes into direct contact with these nobler spheres of human thought."*

But it is to be remarked that in the three first supposed stages of the development of the mind, which we have considered in the last chapter, the materials with which logic has to deal are furnished by the two previous stages, the sensational and the perceptive;† and the act of the mind giving a form to those materials constitutes the third stage, or logical consciousness. Now, as Mr. Morell repeatedly affirms that the case stands exactly the same with supersensual truths,‡ we ask how is the *matter*

* 'Philosophy of Religion,' p. 16. † Ibid., p. 22.
‡ Note I, p. 24.

of these truths introduced into the mind without the concurrence of logic, since the intuitional consciousness comes after, and appears to be only a development of the logical; and thus how can Mr. Morell maintain his assertions that "our intellectual activity is not confined within the circle of the logical process?" or that "the syllogism is not the limit by which the reason of mankind is ultimately bounded?"*

The fallacy in Mr. Morell's views will become evident by a glance at the first column of his Table of the successive development of human consciousness, which we reproduce here.

MIND.

First stage—Sensational consciousness.
Second stage—Perceptive consciousness.
Third stage—Logical consciousness.
Fourth stage—Intuitional consciousness.

Is it not evident that in transforming his fourth stage of consciousness into an *intellectual sensibility*

* Lectures, p. 68.

or a faculty of *pure reason*, Mr. Morell falls into a fallacy which vitiates the whole of his argumentation?

The intuitional consciousness being the fourth stage of development of the mind, must comprehend in itself all the elements introduced in the three previous stages, viz., sensation, perception, and logic.

How can he show that intuitional consciousness repudiates these elements of its own development, the component parts of its very nature or essence, and transforms itself into a higher mental principle, such as the pure reason of Kant, or the natural light of Leibnitz, without falling back into Schelling's intellectual intuition scheme, which he has himself condemned?

According to Mr. Morell, this higher reason perceives the matter of supersensual truths, whilst the logical consciousness gives to these truths their form. But if it has been demonstrated that in the successive development of the sensational element, logic presides over the process of perception from the earliest stage, how could we avoid recognizing it as the

very agent which also arranges the facts relating to the mental element itself?

Virtue is not to be seen in the ambient air. How can we gaze upon nature if it is not in presence of the phenomenal universe? The perception of intellectual and moral truths follows the development of the human being exactly in the same manner as the perception of all other generalizations which the logical power collects from the external world through the sensational faculties. How could these truths be traced to a different origin? How could it be possible for the ear to be the vehicle of harmony —for the eye to bring us the idea of beauty—and for the soul to be moved by a good action, if harmony was not adherent to the sound, beauty to the form, and goodness to a benevolent mind?

§ LXXVIII.

In circumscribing the thoughts attainable to his higher human consciousness into three spheres, Mr. Morell uses the expression *at least*, which leaves room for a great deal more; and we see

further that this superior consciousness not only transcends the limits of the sensuous in the moral world, but takes also cognizance of mathematical, mechanical, and all scientific knowledge whatever; or of every idea which we consider as a generalization obtained by the observation of the facts of the external world.* So that it becomes superabundantly manifest that Mr. Morell's fourth development of our consciousness is as much an artificial contrivance as the other three. Since it has to deal with the material world, this development sinks back into the third; and notwithstanding all his efforts to isolate it, Mr. Morell lets it fall again into the logical faculty itself; it eludes his grasp, and finally the three spheres of higher truths lie under the same range as all scientific spheres, viz., *sensational experience.*

Either this higher intuition principle is the same as logical consciousness, or it is an independent principle like that of Schelling. In both alternatives the view is left unsupported by arguments of any

* 'Philosophy of Religion,' pp. 46 and 47.

value; for I have demonstrated on the one hand that logical consciousness takes its objective elements in sensational perception; and, on the other hand, Mr. Morell himself opposes Schelling's scheme of intellectual intuition, which I have rejected as absurd.

I conclude, therefore, that Mr. Morell has completely failed in establishing his higher principle—a conclusion which many will admit on the *primâ facie* condemnatory evidence that this pretended intuitive reason makes its appearance only after the mind has been completely stored with generalizations, both material and mental; generalizations which the logical faculty has successively appropriated, from the beginning of life throughout the development of the understanding, up to the state of intellectual maturity and philosophical culture.

§ LXXIX.

Modern metaphysicians do not content themselves with supposing a continual immediate communication between the mental unity in man and the Supreme

intellect. They even daringly attempt to sink the mind of the living man into the very essence of the Deity.

The chief characteristic of Mr. Cousin's doctrine of *spontaneous* or *instantaneous apperception* of truth, is that the principle of reason, in man, is *not personal*, but is the pure primitive light itself, and only becomes personal or subjective by its connexion with the human mind.

Hence the extraordinary opinion is advanced that "there are moments of thought, in which the mind mingles up no element whatever of its own personality."*

This view, which is strongly contended for in many parts of Mr. Morell's books, may be reduced to a syllogism, of which the reader will find the terms almost literally in the Introduction to his 'Speculative Philosophy,' p. 62.

That which grasps absolute truth, is independent of personal reason ;

Our reason grasps absolute truth :

* Morell's 'Modern Philosophy,' vol. ii., p. 494.

Therefore OUR reason is independent of personal reason.

The fallacy in this syllogism consists in the word *personal* being replaced in the second premiss by the word OUR, which masks the contradiction between the first and the second premiss.

This contradiction becomes manifest if we replace "*our*" by personal reason.

That which grasps absolute truth is not personal reason;

Personal reason can grasp absolute truth:

Therefore personal reason is not personal reason.

Or, in formal logic,

A is not B;

B is A:

Therefore, B is not B.

This, I think, will be deemed sufficient as a proof of the absurdity of the proposition.

I may safely defy Mr. Morell, with the whole of modern English and European metaphysicians together, to construct a syllogism in which they

are able to show that *human reason* can be brought into contact with the absolute, without bringing in an element equivalent to the *ego*, or the me, or self, or personality.

That our reason receives the reflection of things or absolute truths within itself, that these eternal things are "an emanation or ray of the infinite reason," and that "absolute truth is manifested to every mind alike," cannot destroy the fact that absolute truth is not perceived at all, or is perceived by individual reason.

§ LXXX.

But it is not only contended that the apperceptions or intuitions of the human mind are not personal, in the sense explained above, viz., when the personal mind is entirely sunk into the divine.

"These intuitions," says Mr. Morell, "are in no respect individual; they belong to mankind as a whole; they form, as it were, a life that runs throughout the soul of humanity, that developes itself in the flow of ages."*

* 'Lectures,' p. 83.

"The intensity with which we realize a subject, which involves an element of supersensual truth, depends upon the state of our intuitional consciousness. . . . . There are no fixed and uniform laws of intuition, but a progressive intensity, from the weakest up to the strongest power of intuition. . . . . Conscious of this defect, the logical faculty comes to our aid. Knowing as we do too well, that the intuitions we obtain of truth in its concrete unity are not perfect, we seek to restore and verify that truth by *analysis*, *i. e.* by separating it into its parts, viewing each of those parts abstractedly by itself, and finding out their relative consistency, so as to put them together by a logical and reflective construction into a systematic and formal whole."

Hence Mr. Morell arrives at the notable conclusion "that the very rise of logical analysis implies the existence of intuition; for were there no truth DIMLY perceived, there would be no impulse to restore and define it; and consequently, valuable as the logical processes may be, they cannot fill the

place or perform the office of broad and VIVID perceptions."*

By the preceding quotations it would appear that, from the dawn of philosophy up to the present time, metaphysical theories have been poured down, in an uninterrupted stream, by the Supreme intellect, into the mind of man, through direct supernatural communications:—a doctrine even more mystical than the ecstatic illuminism of the Alexandrian school.

How is it, then, that these divine inspirations, together with all the metaphysical speculations which they have dictated, have never made on the common sense of mankind a well-defined and lasting impression; and that each successive theory has passed away without leaving, on the ground of our knowledge, a more permanent mark than the fugitive furrow traced by a flying vessel on the even surface of the sea? And how can it have happened that these intuitions, which are said to be for us the final ground of truth, and were at first so strongly impressed on the mind of the reader as "lying beyond

* 'Philosophy of Religion,' p. 60.

the region of mere understanding," as "accessible only to that higher intellectual consciousness" which "transcends the limits of sensuous phenomena, and comes in direct contact with the nobler spheres of human thought,"* are now found so deficient that they are worth nothing by themselves, and that "what was at first vivid intuition of the infinite,"† and through which we were "in contact with a living reality, in the very midst of objective truth,"‡ has become something *dimly* perceived, which wants restoration; a business which falls again into the department of logic, of discarded logic, which, after all, has alone the power to clear up, to define, to restore, and to *precise?*

But since it is the business of logic to rectify these DIM-VIVID (!) truths, and since logic is strictly a pure individual faculty, how can it be in the appeal to the general consciousness of the human race that lies our final ground of truth?

I could enlarge upon the inconsistency of these

* 'Philosophy of Religion,' p. 16, quoted p. 271.
† 'Lectures,' p. 76. ‡ Ibid., p. 77.

views, and the glaring oversights which they contain; but they are so evidently desultory and replete with contradictions, that I really shrink from the tediousness of exposing them more at length, and shall content myself with the remark that they are in direct and flagrant opposition to the original common sense of every enlightened and unsophisticated mind. I say *original*, for here I do not allude to that *transcendental* common sense, which, by the most strange artifice of language, is represented as the equivalent of the universal reason of mankind; I only speak of that simple, unbiassed *good sense*, the common sense of any sound human being, in the plain, straightforward acceptation of the expression, which tells every individual, and the whole of mankind at large, in all countries and at all times, that we see with our eyes, hear with our ears, touch with our fingers; but that we think with our mind; that two and two are four, that white is not black, and that there is a real solid earth to walk upon; that the principles of beauty, harmony, and virtue evolve themselves in our consciousness, through the

perception of the proportions of real beings, the contemplation of faculties attached to our organization, and emotions excited by sensations produced by the sight or description of good and virtuous actions.

§ LXXXI.

Why should philosophers make such extraordinary exertions to establish that there is between the human mind and Divine immanence an immediate and constant supernatural communication?

What can we gain by denying the evidence of our organization?—by sinking our senses into absolute nihilism, and our actual individual consciousness and mental unity into the infinite essence of the Deity?

Not satisfied with keeping the noble rank which has been assigned to him in this temporary abode, and with religiously nourishing the fond hopes of a purer and more glorious state, man has endeavoured to rend the veil of his destiny, and to embrace, within his reach, on this earth, the conditions of existence which he contemplates in a future state.

This was too presumptuous an aspiration, and chastisement has followed the daring attempt.

Like the construction of the Babelian tower, the completion of metaphysics has been arrested. In the midst of man's effort to disown the truthfulness of his organic constitution, and to place the ground of his living intellect in heaven, confusion has arisen, and the Scriptural text has become realized as a prophecy, "that men do not understand each other's speech."

After so many centuries of intricate labours, metaphysical science has not advanced a step; and the little good that may be in it consists only in the generalizations, deduced from observed facts, which it was impossible not to employ as the raw materials of its construction.

This is the most that can be said in favour of this pseudo-branch of human knowledge; for, in the opinion of the great mass of well-cultivated minds, it has never been and never will be anything but an unintelligible maze of logomachies, paralogisms, and contradictions.

CHAPTER XXV.

§ LXXXII. Upon what ground the basis of human knowledge is to be placed — The Categories of Mr. Victor Cousin—Process of elimination of the redundant elements of these Categories—Their reduction: 1. To the individual mind and general intellect; 2. To material unity and material multiplicity; or, actual causes and first cause— § LXXXIII. Two systems, apart from metaphysics: 1. That the world has existed for ever as it is now; 2. That it has had a beginning.

§ LXXXII.

In the preceding investigations I have endeavoured to make *tabula rasa* of all philosophy grounded upon metaphysical arguments. To complete my work it remains to show how philosophy is in itself possible, and therefore upon what basis the final ground of human knowledge is to be placed.

To put my ideas in a clear light, and to contrast them more strongly with the modern schools of philosophy, I will deduce my fundamental ground

from an analysis of the Categories of my illustrious countryman Mr. Victor Cousin, by eliminating from these Categories the elements which appear to me redundant and useless.

This will form a natural introduction to the exposition of this portion of my views which has not already found its place in the preceding chapters, in opposition to the speculations of the transcendentalists. Outlines are the only features that my limited leisure allows me to trace, for the present, and the only thing which I intended from the first undertaking of these essays, as the second title of the book formally enunciates.

The following table I take from Mr. Morell's translation of that of Mr. Cousin;* I only replace the title, *First Category* and *Second Category*, by one more appropriate to my views, and introduce the twelfth category, that of the *Ego*, after the first or unity.

* 'History of Modern Philosophy,' vol. ii., p. 491.

Categories of Human Knowledge.

Simple Facts.	Generalizations.
1. Unity.	1. Multiplicity.
2. Ego, or self, (subject.)	2. Non-ego or external world, (object.)
3. Bounded space.	3. Absolute space.
4. Simple existence.	4. Absolute existence.
5. Time.	5. Eternity.
6. Finite, (Figured.)	6. Infinite, (Figured.)
7. Secondary cause, or antecedent fact, in the actual order of nature.	7. Primary cause, or antecedent fact, or creation, out of the actual order of nature.
8. Phenomena.	8. Substance.
9. Thoughts, or ideas.	9. Mind.
10. Beau real.	10. Beau ideal.
11. The imperfect.	11. The perfect.
12. Contraction.	12. Expansion.

To any positive philosophical mind the examination of these categories must show, at a first glance, that *they are not* primary elements of our knowledge, since they can easily be reduced by eliminating those which are evidently parallel to, or derived from, the others.

First. The idea of *unity* is the same as that of the ego, or self, or subject, as an individual; and that

of *multiplicity* is identical with the idea of objects as a collection of unities taken in the non-ego or external world.

Secondly. The idea of *bounded space* is the abstraction of a given unity; and that of *absolute space* is equal to the idea of multiplicity, or of the innumerable unities which fill up the unbounded universe.

Thirdly. Simple existence is *unity;* absolute existence is *infinite multiplicity.*

Fourthly. Finite (figured) and Infinite (figured) contains the same idea as the preceding, since the general idea of space is derived from the observation of partial attainable, and from the conception of infinite unattainable, spaces.*

Fifthly. *Phenomena* is the same as finite (figured), and substance the same as infinite—figured.

Sixthly. I reject the category of *imperfect* in opposition to *perfect,* because the idea of perfect is the same as that of the beautiful; and because the imperfect is not a generalization, but the simple negation of the perfect.

* See First Essay, p. 31.

Seventhly. I must also reject contraction and expansion, as not being particular spheres of human activity, but being expressed by unity and multiplicity, or bounded and absolute space.

By this first process of elimination the categories are reduced to the following:—

Simple Facts.	Generalizations.
1. *Ego* or self, or subject, or unity, or spacial parts.	1. Non ego, or multiplicity, or external world.
2. Time.	2. Eternity.
3. Cause (antecedent fact in the actual order of nature.)	3. Cause (fact antecedent to the actual order of nature.)
4. Thoughts, or individual mind.	4. Mind, general intellect.
5. Beau real.	5. Beau ideal.

There remain thus only five spheres. But even these are still susceptible of reduction, and of another and clearer arrangement.

Since the external world comprehends the multiplicities of the Ego; and since, on the other hand, every figured object, considered in itself in opposition to *its* external world, is an *Ego;* the fourth category may be included in the first: so that we

should have simply the *Ego* opposite to the *Non-ego*. But this is naturally redivided as follows :—

1. Ego, or individual mind.	1. General intellect.
2. Material unity.	2. Material multiplicity.

The *beau-real* cannot be considered but as a secondary element, which results from the contemplation of the harmony and perfect relations of parts in the material or mental unities. *Beau-ideal* is the generalization of the *beau-real*. So that this category forms *double employ* with the real objects themselves, or their attributes, like forms, colours, sounds, and other qualities. In eliminating this there will remain only the following categories :—

Simple Facts.	Generalizations.
1. Material unity.	1. Material world.
2. Mental unity.	2. General intellect.
3. Time.	3. Eternity.
4. Cause, (antecedent fact in the actual order of nature.)	4. Cause, (fact antecedent to the actual order of nature.)

Now it is again to be remarked that the idea of *Time* is comprised in the idea of *Cause*, in both columns, since time is measured by the succession

of facts. We are therefore justified in eliminating this element.

There are only therefore three fundamental categories of human knowledge, which I comprehend in the following formulæ:—

1. Figured objects.	1. External world.
2. Individual minds.	2. Supreme intellect.
3. Actual causes, (Nature.)	3. First cause (Causa causarum.)

To prove that this analysis is not founded upon arbitrary arrangements, nor upon a preconceived metaphysical system, it will be sufficient to remark that the two first categories are in perfect concordance with simple common sense, or with the practical views which the most moderately cultivated minds usually take of the phenomena of the world.

The third category may be considered as involving the two first, and reducing them to a synthesis.

§ LXXXIII.

Apart from metaphysics, and based upon the study of natural facts or scientific investigations,

two systems offer themselves, which distinctly exclude and repulse each other: one of them being true, the other becomes necessarily false.

Either the world has always existed as it now is, and matter has, from all eternity, contained within itself the conditions of its phenomenal development, or the actual order of things has had a beginning.

In the first case, the category of a First Cause must be erased from the ground of our knowledge. The universe is an eternal permanent actuality. There is no *substratum* under the observed course of events. Facts have always succeeded, and will always succeed each other, as we see them at present. The highest expression of intellect is reduced to the exact measure of human reason. Man is the real god. Spinosa is right. Pantheism contains the expression of infinite truth. Philosophy becomes useless and impossible. Physical laws of matter and animal organism offer us the only things which are absolute, since under these appearances there is really nothing to discover and to know.

In the second alternative, the laws of nature

having had a beginning, our task is to trace back, in an historical ascending series, the succession of facts, and to prove that the progressive unfolding of events, in the universe, is the result of a first impulse imparted to matter by a principle superior to the laws—an Omnipotent God, who framed these laws in time, and whose essence forms the substratum of the world independently of them.

Upon the category of actual causes and *causa causarum* I have therefore taken my ground, and contend that philosophy is only possible by tracing out the relations between nature and its first cause, through facts anterior to the existing order of things.

CHAPTER XXVI.

§ LXXXIV. That the doctrine of no beginning is in opposition to the fact of the existence of light, or of a resisting ether—Dr. Whewell's views on this point—The nebular hypothesis—The formation of nebulæ—Whether due to forces eternally residing in matter—No fact in support of this opinion—§ LXXXV. To contend that this power has eternally existed in matter, although it has begun in time, is a logomachy—Want of profundity of the author of the 'Vestiges of Creation'—absurdity of his argument on this point—§ LXXXVI. W. Herschel's supposition of irregular clouds, and the formation of eddies or whirlpools producing a rotatory motion, unfounded and fallacious—§ LXXXVII. The probability of Laplace's views as representing the modes, means, and laws of condensation—That condensation began at once in the infinite space—A starry sky necessary to the development of mankind, &c.—A single act of creation.

§ LXXXIV.

THE doctrine that the world has existed from all eternity, as we see it now, may be rejected on the ground that this eternity is in opposition to the

simple fact of the existence of light, or at least of some material medium, filling up space.

Light is now considered, by the most eminent mathematicians and astronomers of the age, as being, with great probability, identical with the celestial resisting ether. The resistance of a medium impeding, in the solar system, the motions of planetary bodies, continually shortens the time of their revolutions, by reducing their orbit, and brings them nearer and nearer to the sun, into the mass of which they must ultimately merge.

This is forcibly pictured by Dr. Whewell, in his elegant little treatise on Astronomy and General Physics; when, after remarking that Encke's comet "is now ten days in advance of the place which it would have reached if there had been no resistance,"* he arrives at the following forcible conclusions:—

"There is a resisting medium; and therefore the movements of the solar system cannot go on for ever. The moment such a fluid is ascertained to exist, the

* Whewell's 'Astronomy,' eighth ed., p. 107.

eternity of the movements of the planets becomes as impossible as perpetual motion on the earth."*

"Some have endeavoured to evade the force of this argument by maintaining that the world as it now exists has existed from eternity; that the present order of things has prevailed through an infinite succession of past ages."†

"But the doctrine of a resisting medium compels us to go back to the origin, not only of the present course of the world, not only of the earth, but of the solar system itself."‡

These remarks naturally lead us to the consideration of the nebular hypothesis, a speculation which is still strongly advocated by many enlightened minds, and which I will endeavour to concentrate and examine in a few general arguments.

It is contended by the supporters of the doctrine of *actual causes*, that the formation of nebulæ is the consequent fact of permanent laws of nature; that these successions of movements and evolutions are

* Whewell's 'Astronomy,' eighth ed., p. 199 and 200.
† Ibid., p. 207. ‡ Ibid., p. 208.

the produce of forces which matter has contained in itself from all eternity; these forces being the conditions of its phenomenal development; and that therefore the agglomerations into clusters of stars, and planetary systems, are nothing but the necessary effects of powers indelibly inherent to matter.

In opposition to this, it is to be observed that the discoveries of Lord Rosse leave unsupported that part of the hypothesis which considers the formation of centres of attraction in space as an actual fact.

Some of the most remarkable and most enigmatic nebulæ having been decomposed into groups of stars, it cannot be but by struggling against the rules of inductive analogy that the present formation of solar systems can be maintained as a reality.

The opinion of those philosophers, therefore, who, like the Rev. Professor Baden Powell, still adhere to this view, and refuse to recognise the value of analogy, might be safely left aside, and their supporters allowed to persist in their belief; it being sufficient for the cause of truth to remark that this

belief is now unsupported by any substantial averred fact.

But even were there any positive discovery of nebulæ in an actual state, and in various stages of vaporous condensation, we should not be authorized to conclude from this that the power of condensating has manifested or manifests itself at successive periods in matter. For the size of these nebulæ, and the quantity of matter surrounding their centre of attraction, might be the real cause of their not having, as yet, passed to the concrete or *discal* condition; although the act of condensation had begun *at the same time* as that of the more advanced stellar or planetary systems.

§ LXXXV.

On the logical point of view, to contend that there has been from eternity, in ethereal matter, an inherent power of transforming itself into stellar groups or centres of attraction, whilst it is admitted, on the other hand, that this power has manifested itself in time, is a logomachy, exactly equivalent to the con-

tradictory assertions that the actual system of the world *has had* and *has not had* a beginning.

The fact that the condensation has begun at a finite or fixed time, is destructive of the supposition that the power of condensating has eternally subsisted in matter. Any one who can grasp the idea of eternity will consider this argument as decisive.

When the author of the 'Vestiges of Creation' mentions, as a proof of the prevalence of material laws and a fixed order throughout the universe, the arrangements taken by a small portion of terrestrial matter put in motion around a rotating axis, this only shows the author's want of profundity. Every particle of matter, in our or in any possible planetary system, must evidently be endowed with the cosmical powers which have presided over and maintain the existence of the system.

But to argue from the actual presence of these powers to their existence in matter previous to the beginning of condensation, forms a well-characterized *petitio principii.*

The ingenious experiments of Mr. Plateau * prove that planetary matter retains, in all its parts, at the present time, the cosmical powers which have presided over its arrangements; but they do not show that these powers have existed from all times in matter.

The argument of the author of the '*Vestiges*' to be valid should rest upon observations free from any connexion with a concrete system: it becomes absurd when deduced from experiments upon matter, not only concrete, but belonging to a system *in an actual state of condensation.*

§ LXXXVI.

The supposition, originating with W. Herschel, that the act of condensation may have been accompanied by an *unequal* flow or rush of the nebulous matter from all sides towards a central point, might have some appearance of plausibility when it was founded upon the admission of IRREGULAR CLOUDS of cosmical matter, gathering at various periods of time,

* See 'Explanation to the Vestiges of Creation,' p. 14.

in different parts of space; because in this supposed irregularity one could imagine the formation of eddies or whirlpools; and, hence, that the gyration of central atoms might have imparted a rotatory motion to the mass, in virtue of simple mechanical causes.

But even the slender support which the system of the eternity of natural laws could receive from the improbable doctrine that such chances and accidents might give birth to a well-regulated system, entirely disappears before the fact that no such irregular clouds could have any existence if the condensation has begun simultaneously in all the portions of space; this view leaving no room for the hyperbole of a conflict of streams in the universal ethereal matter in a state of condensation:—besides, such a supposition strictly leads to the idea that, although the condensation has had a beginning in time, the power of condensating has eternally existed in matter, which I have demonstrated to be a logical fallacy.

§ LXXXVII.

From the preceding remarks, I think the reader must be prepared to understand that so far from being disposed to reject Laplace's views, I admit their probability to the extent, that they represent the modes, means, and laws of condensation through which the actual system of the world has been formed; but all the arguments founded upon the admission of patches of matter successively beginning to form into systems of worlds, in the heavenly depth, fall to the ground; since there is a complete absence of facts to justify this speculation.

The most probable view is that condensation began at once in the whole of space. The idea of a beginning of condensation of cosmical matter being admitted, the sameness of the fact, considered in itself, in all parts of the heaven accessible to our observations, imprints upon it the character of a universal law; and there is no ground for the belief that this law could have operated in one portion of

space before it entered into action in the other portions.

The idea of a successive formation of centres of attraction is incompatible with the consideration of the relations of mutual dependence of all the modes, attributes, and parts of the creation.—A starry sky softening the dreary darkness of night is as necessary to the physical and mental development of mankind, and very likely to the existence of animated beings, as the sunlight of day. Is it probable that the radiant lights of this magnificent stellar vault, could have been created piecemeal, now and then, here and there, at distant intervals of time, and that its relation with us, which appears so strikingly the result of a design, should only be the effect of an innumerable succession of creative acts, or the inexplicable produce of chance?

The truth contained in the nebular hypothesis resolves itself, *therefore*, into the philosophical idea of a spontaneous creation of the universe by the *fiat* of an Omnipotent Will, out of a simple uniform ether.

This view, which fully coincides with the geological deductions that I have sketched in a former work,* places the idea of a *first cause* on the consideration of the fact of the formation of the astral centres of attraction in space.

To what extent these ideas are confirmed by the examination of the earth's crust, forms the subject of my investigations in the following chapter.

* See 'Philosophy of Geology,' second edition, p. 163 and following.

CHAPTER XXVII.

§ LXXXVIII. The whole quantities of every simple body considered under a collective view—Analysis and synthesis—Dalton's views of the independence of elastic fluids forming concentric atmospheres—Hypothesis of the author—That the terrestrial globe was once a vaporous mass, composed of as many concentric atmospheres as there are simple bodies—§ LXXXIX. Fitness of this hypothesis to explain the circumstances of the dissemination of these bodies in the terrestrial crust—Vaporous oxygen, the general menstruum—Agreement of this hypothesis with mathematical calculations of the earth's density, and with the distribution of simple bodies—Oxygen the active element of fixation—Its union with the earthy basis—That this hypothesis forms the passage between the astronomical and the geological view of the origin of the globe.

§ LXXXVIII.

In the annals of scientific generalization, I do not know that there is any record of an attempt to embrace under a collective view the whole quantities of each of the simple bodies which are disseminated in and compose the crust of our planet.

The particles of most of these bodies appear dispersed in the terrestrial envelope, without any necessary connexion whatever; and although each of them is recognised as forming an independent element, science has never raised the question whether its similarly endowed particles had formerly some intimate relation of contact; or, in other words, whether these isolated fractions are not the dissevered members of what was once a great connected unit.

Iron, for instance, is irregularly distributed through the mineral envelope, in patches of an infinite variety of sizes and density, from the compact oxide, or even the metallic state, to the evanescent appearance of a fugitive colouring principle.

All the other simple bodies, about fifty in number (excepting the few which form the great bulk of the solid crust, such as silicon, oxygen, aluminium, potassium, magnesium, and calcium), are still in a more isolated condition than iron itself.

This irregular dissemination throughout the metalloid shell is an unexplained fact. There is no

theory, or hypothesis, through which the mind can apprehend the whole of these dispersed fragments.

Disjunction and analysis are the characteristics of our time. In speculative science, as well as in industry, the division of labour exercises its searching but isolating influence. Progress, however, does not only depend on the method which works out the parts, but on that also which unites them. It is only by reconstructing in a synthetical form what has been investigated in portions, that we can obtain complete views of the facts of which the analytical method has revealed the details.*

* Although the synthetic explanation of my views appears to me comprehensive enough, and well adapted to the form and object of the present book, still it will not be out of place to show how the same ideas may be deduced from a detailed examination of natural facts. Thus whilst the general reader will probably be contented with the developments in the text, the geological student and lover of science may find some satisfaction in the perusal of this note, in which the analytical form is employed to control and confirm the synthetical exposition of my views.

§ *I.*

In the 'Philosophy of Geology,' published in 1846, I made the following remarks on the same subject:—"It is in

It was from considerations like these that I endeavoured to find a formula under which the whole

the structure of primordial rocks that we ought to inquire into the condition of matter before its state of igneous liquidity, but the study of the terrestrial crust under this point of view has not yet been undertaken." (See second edition, page 159.) Mr. Scheerer, however, in his Memoirs anterior to my publication, has endeavoured to establish that the crystallization of minerals in the granite has followed the laws of the specific affinities, and that thus the quartz has crystallized after the feldspar. This may be often the case, but it is not constantly so. I admit with Mr. Scheerer and Mr. de Boucheporn "that it is a general fact that the most fusible substances are most often enclosed and implanted in the least fusible of all." But there are numerous cases when it is the reverse. This is of little importance in itself, for in either case the philosophical result is the same, viz., that granite has not eternally subsisted in the solid state. This has been most satisfactorily established by the labours of Mr. Scheerer.

These labours were unknown to me before they were published in the *Bulletin* of the Geological Society of France, in May, 1847; and it has been with great satisfaction that I have seen the question of the origin of the granite taken in hand with much talent and philosophical depth, exactly as I had pointed out in the Philosophy of Geology. Of course the priority of these ideas belongs to Mr. Scheerer; they are deduced from very careful and patient analytical investigations. They entirely confirm my views published in 1828, in the *Recherches sur les Fossiles du Puy de Dôme*, page 115,

substance of every simple body could be grasped at once.

that there was in the primitive melted mass an excess of water, which has been set at liberty by the act of crystallization.

I cannot, however, adopt Mr. Scheerer's conclusions, that "we must consider the primitive rocks as having been melted under water and under a strong pressure." The quantity of water which is at liberty on the surface of the globe and in the air, has been estimated at about *one ten thousandth* part of the total mass. What could be the effect of such a pressure upon the several miles of depth which we know to be solidified of the terrestrial crust? As to the supposed pressure of the solid matter of the earth upon itself, and upon the matter in the state of igneous fluidity; this has always appeared to me founded upon a misconception of facts. The whole of the consolidated envelope may be considered as the general matrix or *contrefort* of all vaults; it is in fact the vault of all artificial vaults—all arches, bridges, tunnels, &c., borrowing their strength only from their perfect incorporation with the whole of the terrestrial crust. This crust being supported on every point upon its own structure, exercises no more pressure upon itself and upon the fluid matter underneath, than the superior stratum of an arch upon its inferior parts and upon the stratum of air, or the current of water lying beneath.

If, on account of the contraction resulting from the cooling, or from other internal causes, the crust collapses, the fluid matter is injected into the crevices or clefts, producing either dikes or volcanos, which afford to the general melted mass a

The actual existence of the terrestrial atmosphere, where at least two simple bodies (oxygen and

relief exactly corresponding to the pressure, leaving thus the envelope in its normal condition of general terrestrial vault.

On the other hand, if there is one per cent. of solidified water in this same crust, this one per cent. forms a quantity of which the whole of the water actually on the surface would still be only a fraction; and there is every reason to think that water exists in the primitive melted mass. I think the most natural explanation is that which I have given, that the terrestrial free water is the result of "the same interior exudation which produces thermal springs," and that "water has spread itself on the surface by a kind of transudation, in proportion as matter has become consolidated," the quantity of free water on the surface being thus always proportional to the mass of the solidified parts. My opinion, therefore, is that Mr. Scheerer has exaggerated to himself the quantity of primitive water which could have possibly existed in the granite. But I certainly think that he is right in maintaining that water was in excess; and I cannot understand upon what ground Mr. Virlet d'Aout can maintain his assertion (*Bulletin*, 1847, tome iv., page 502) "that if by an extraordinary chance there were actually any primitive rocks in existence, the first condition of their existence would be to contain no trace of water of combination." Even supposing with him, that the crust of the earth has been remelted over and over again, there is no reason to suppose that the remelting would have had the effect of introducing water in the thickness of the crust; principally when we take into account the small relative quantity now exist-

nitrogen) exist now, within each other's mass, without losing their independence, together with the ad-

ing on the surface in comparison with that which exists in the solid and probably in the melted mass.

I therefore, consider with Mr. Scheerer, the existence of water in the crystalline crust of the earth as a primitive fact; and, whether this crust has been entirely remelted or not, the substances which have entered into its primitive composition cannot have exhibited greater difference from the actual crust than there is now between two granites of different ages, or even between the primitive rocks and basalts or lavas. Thus in our speculations on the origin of the earth, we can confidently assume that a fragment of old granite, such as that of Auvergne or Canada, represents a fragment, or is the equivalent of a fragment, of the primitive consolidated shell.

This being established, the problem is to find, by the examination of this fragment, what was the condition of the elements composing the crust of the earth previously to their solidification.

§ *II.*

In the present inquiry, the circular doctrine of absolute metamorphism is not taken into account, that *granite was sand and clay before it was granite,* and that *sand and clay were granite before* they were sand and clay; for I think that in the Philosophy of Geology I have established the fallacy of this doctrine upon incontrovertible arguments. The following investigation, therefore, rests upon the admission that even if the most ancient granite did not form the first consolidated envelope of our planet, there must have been a

mission of a primitive gaseous expansion of the matter of the globe, led me to propose the generali-

primitive crust analogous to the actual granite, as it has been intimated in the preceding paragraph.

§ *III.*

Granite is composed of crystals of quartz, feldspar, and mica, varying from less than a line to a few inches in size. These crystals are confusedly aggregated together; and the special form of each kind is in a great measure obliterated by the juxtaposition and interference of the other kinds, so that it is almost impossible to follow in the compact rock the exact relations of the crystals of the three mineral species. But as it sometimes happens that natural cavities called Druses or Geodes are found in the granitic mass, where the crystals have developed freely, the relative positions become more distinct in these parts.

Whenever these relations can be clearly traced, it is seen that the mica associates itself more with the quartz than with the feldspar; it often constructs its crystals upon those of the quartz at an angle approaching the right angle, and very frequently the crystals of the mica penetrate into the substance of the crystals of quartz. This was a general remark of Saussure, of which I have often had occasion to verify the reality—that the mica, *as much as it can*, constructs its crystals at right angles to the surfaces upon which it settles itself.

The following figures represent the relations of the crystals to each other. The specimen from which the figures 1, 2, 3 are taken may be seen in the collection of the Manchester Museum. I have traced similar relations upon a

zation which forms the last chapter of my First Essay, viz. :—

sufficient number of specimens to be certain that they are not accidental: any fragment of quartz associated with tourmaline will show the same relations as in fig. 4.

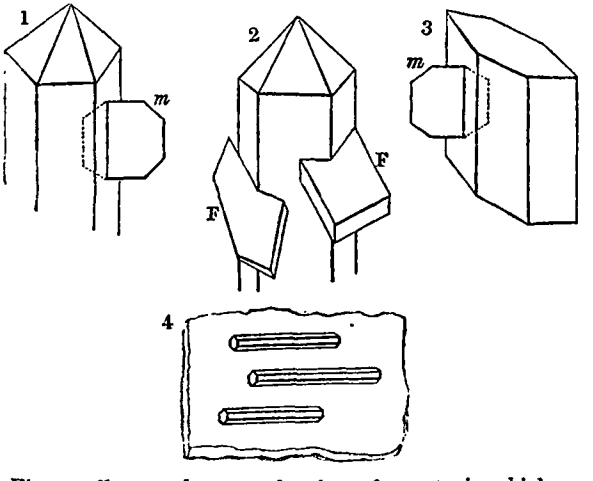

Fig. 1 offers an hexagonal prism of quartz in which an octagonal crystal of mica (*m*) penetrates.

Fig. 2 is another prism of quartz upon the surface of which the crystals of feldspar have been formed, but do not penetrate.

Fig. 3 is a crystal of feldspar in which a crystal of mica is implanted.

Fig. 4 is a fragment of quartz in which are enclosed crystals of tourmaline.

These relations of the crystals, either in the compact gra-

"That the whole of the substance which constitutes the solid and the liquid mass of the earth formed

nitic mass or in its accidental cavities, show a succession of phenomena which proves that the matter composing the whole has existed in another state previous to its present condition. Silica was evidently in excess in the melted matter which has produced the granite; and the quartz consists of the remainder of this silica, above the portion required by the elective affinities for the composition of the feldspar and mica. Still the quartz does not appear always merely as filling up the interstices between the minerals, but forms independent crystals intermixed and apparently pressed in the general mass: when sufficient space has been allowed, the crystals of quartz and mica appear to have been formed before those of the feldspar. The tourmaline and other accidental minerals could not have assumed the crystalline forms in the middle of the quartz if the latter had not been in a soft state; a topaz also or some other isolated crystal is often found in druses lying on the granitic mineral species which support it; the latter evidently possessed their form before the topaz crystallized upon their summit.

On the other hand, granite being composed sometimes of small, sometimes of large crystals, it is evident that the various elements of the whole mass have been once in a state of relative freedom, which, according to some conditions concomitant with the crystallization, has determined these elements to gather in variously sized clusters.

Thus from the simple examination of the internal structure of the granite, and without even taking notice of the direct evidence furnished by the circumstance of its having

once an immense aëriform sphere," and that "this sphere was composed of as many concentric atmos-

been injected through veins and dikes, we arrive by a process of deductions from observation at the recognition of a previous melted state of the actual solid fabric of the earth's crust.

In confirmation of these views I may mention that Sir Humphry Davy made several curious examinations of portions of liquid and gases found in the cavities of crystals; and generally recognised that the liquid was water nearly pure, whilst the remainder of the cavity was filled with azote in a very rarified state—so much so that when free it occupied only one-tenth and sometimes one twenty-fifth of the bulk corresponding to the cavity. A crystal of quartz from Lagardette in Dauphiné contained a substance analogous to naphtha, but no air or gas. The conclusion which he drew from these facts was "that it was difficult to account for the phenomenon except on the supposition of their being formed at a higher temperature than that belonging to the surface of the globe, and that the most probable supposition was that the water and silica were in chemical union, and separated from each other by cooling, (*Collected Works*, vol. vi. p. 213). He also remarks that he is in possession of a specimen of lava from Vesuvius containing a cavity in which feldspar and mica have crystallized in their regular forms; and the separation and geometrical arrangement of their elements have evidently been the result of slow cooling (ibid., p. 201).

§ *IV.*

The next inquiry will be, what was the chemical constitution of the melted granitic mass? The following are the

pheres as there are simple bodies now existing in the entire mass." (See p. 137.)

This entirely agrees with Dalton's views that, "in mixed elastic fluids, the elastic or repulsive

results obtained by the analysis of the three constituent elements of the granite and of two mineral species accidentally found in it. The composition of some minerals, such as that of the mica for instance, is very variable, and some elements may disappear and be replaced by others without the *facies* and the physical characters being altered. Other species are found which I do not take into account; as for the generalizations I have in view, the results contained in this table will be a sufficiently exact representation of the composition of the primitive mass.

The four first analyses are by Vauquelin, the two last by Berzelius.

Chemical Composition.	Quartz.	Mica of Muscovy, first variety.	Mica of Muscovy, second variety.	Feldspar.	Topaz.	Tourmaline.
Silica . . .	100	40	45	62·83	34·01	45
Alumina . .	..	11	33	17· 2	58·38	30
Magnesia . .	..	19	..	..	..	..
Lime . . .	..	..	..	3·	..	..
Potassia . .	..	20	15	13·	..	..
Oxide of Iron and Manganese	..	8	4	1·	..	..
Soda . . .	..	..	..	..	..	13
Fluoric Acid .	..	..	..	..	7·79	10
	100	98	97	96·85	100·18	98

Here

power of each particle is confined to those of its own kind; and consequently the force of such a fluid, gravitating, is the same in a separate as in a mixed state, depending on its own proper density and temperature." And further, "Such atmospheres being independent of each other, their densities, at different heights, must be regulated by their specific gravity;" and, therefore, "the heaviest observe a diminishing ratio in ascending." Thus, in the actual atmosphere, according to Dalton, oxygenous gas

Here it is to be remarked that although the granitic rocks may offer great variations in the relative proportion of the three constituent mineral species, quartz, feldspar, and mica, the same melted compound appears to contain in itself the proportion of ingredients necessary for the production of the most apparently different varieties of them.

Thus, whether granite be composed of two parts of quartz, two parts of feldspar, and one part of mica, or two parts of quartz, three parts of feldspar, and one of mica, the composition of the melted mixture required to produce either of the two sorts of granite is very nearly identical. This has been clearly established by Sir Henry De la Beche, and Professor Phillips remarks that even in abstracting the mica as in a binary granite formed of feldspar three parts, and quartz two parts, the variation in the composition of the primitively fused glass is very small.

becomes rarer in ascending, and there is no doubt that such is also the case with carbonic acid and invisible aqueous vapour.

§ LXXXIX.

The fitness of such a hypothesis to explain the circumstances of the diffusion and dissemination of

The following Table, taken from Professor Phillips's 'Geology,' shows these relations of the ingredients.

Chemical Elements.	Granite composed of		
	Quartz 2 parts, Feldspar 2 parts, Mica 1 part.	Quartz 2 parts, Feldspar 3 parts, Mica 1 part.	Quartz 2 parts, Feldspar 3 parts.
Silica	74·84	73·04	75·1
Alumina	12·80	13·83	10·9
Potassa	7·48	8·51	9·8
Magnesia	0·99	0·83	..
Lime	0·37	0·44	0·5
Oxide of Iron	1·93	1·73	0·4
Oxide of Manganese	0·12	0·10	
Fluoric acid	0·21	0·18	

The fractional differences of composition between the various sorts of granite may be neglected on account of their insignificance, these differences being much smaller than the variations in the composition of the mica and feldspar

all the simple bodies which enter into the composition of the earth's mass, appears to me to imprint upon it an irresistible character of truth.

themselves. For this reason, it may be confidently asserted that the elements of the second and even of the third column might form a granite composed of the same proportions of quartz, feldspar, and mica expressed in the first column of the table above.

On the other hand, this similarity of chemical composition does not apply merely to ancient granites, but to all the newest granites and porphyries, and with some modifications to vulcanian rocks of all ages; so that all that we know, not only of the primitive consolidated masses, whose up-heaved edges are exposed to our observation, but also of the melted matter itself, brought to the surface by volcanic eruptions, authorizes us to draw the conclusion that, as deep as our investigations can penetrate, *the chemical elements of the mineral envelope of the earth were originally very minutely intermixed in the melted mass*—a view which receives a strong degree of confirmation from the fact, already mentioned, of the crystals of each kind being of different sizes in the various groups of the vulcanian masses.

We thus arrive, by a strict interpretation of geological records and deductions from observed facts, at a condition of our planet when, as far as we can penetrate into the depth of its substance, it was composed of various fused elements, intimately mixed together; and we know also that the transformations which this mass has subsequently undergone were the consequence of an antecedent fact, concomitant with the deperdition of caloric, viz., the action of crystalline forces.

Vaporous oxygen formed one-half of that portion of the complex atmosphere which now constitutes

I have pointed out in the 'Philosophy of Geology' (second edition, page 163) the oxygenation of metallic bases as the fact immediately anterior to that state of matter which was the condition of the crystallization of the granitic complex species. I will now endeavour to show what support the ultimate analysis of the granitic crust may afford to these views, and what consequences may be deduced from the consideration of its chemical composition.

The mass of the globe accessible to our observation, whether in the crystalline or in the melted state, consists of two distinct parallel elements, the oxygen and the bases. For chemical researches have established the following results:—

GRANITE	Metalloid and metallic bases . 52—	Oxygen 48
WATER .	Hydrogen . . . . . 11—	Oxygen 89
AIR . .	Nitrogen, carbon, and hydrogen 80—	Oxygen 20

Considering, on the one hand, that the minerals constituting the granite contain water of crystallization in a notable proportion; and, on the other hand, that water has in its composition a large excess of oxygen, it may be confidently admitted that the known terrestrial mass comprising air and water is composed of about one half of oxygen and one half of bases.

§ *V.*

We are thus in presence of two elements distributed throughout the whole accessible envelope of the globe; united together, sometimes in the simple condition of mutual penetration, as in the atmosphere, sometimes combined and easily separated, as

the crystallized envelope of the globe. In this general menstruum were enclosed as many as fifty-five or

in water, but having, in the solid envelope, such an affinity for one another that the separation has been considered as one of the greatest accomplishments of modern science, and remains still one of the most difficult operations of analytical chemistry.

Could it be then, for an instant, supposed that this previous condition of matter forms the natural limit of our investigations, and that the human mind will remain satisfied with the sterile contemplation of this compound melted mass as an ultimate fact?

. . . . .

No! In the same manner as the feldspathic and micaceous elements existed in a free condition before they were assembled in the crystalline form, the oxygen and the bases must also have had an independent existence before they united to form a melted compound.

§ *VI.*

A short time after the discovery of the metallic nature of earths and alkalies by Sir Humphry Davy, this great chemist, together with our celebrated Gay-Lussac, imagined that the volcanic phenomena could easily be explained by supposing that the metalloid bases existed in the earth in the native or pure state. Hence the hypothesis that the primitive condition of the globe was that of a compound mass of virgin metalloids and metals, surrounded by an oxygenic atmosphere; the solid crust being the first result of the oxidation, and volcanic phenomena the continuation of this action.

This hypothesis has been supported and developed by Pro-

dependent atmospheres, having each its own density, and gravitating by itself, in the bosom

fessor Daubeny, in the first edition of his 'Volcanos,' after it had been abandoned by Davy. But Davy himself never laid a great stress upon it, as may be seen from one of his geological lectures delivered in 1811, where he says, "Though the idea is one which I have myself ventured to throw out, I cannot avoid saying that it rests upon pure speculation. It does not command our assent, nor has it for me that high degree of probability which necessarily induces conviction." (*Collected Works*, vol. viii., p. 187.)

Davy's hypothesis, however, has this character of progress, that it presupposes, as an antecedent fact, the separate existence of the oxygen and of the metalloids. But it is insufficient and open to many objections; the principal of which are—

I. That it is unphilosophical to suppose the actual state of things to have begun by two different kinds of elements destined to be united, being suddenly brought in presence of each other, the one in a gaseous, the other in a solid or in a liquid form—the mind still raising the question of an anterior condition of that metalloid mass; since from the solid or liquid it may also be transformed into the gaseous state.

II. If it is supposed that the oxygen existed as an atmosphere around a metallic nucleus, how is it to be conceived that this atmosphere has not been entirely absorbed, but has just left a minute fraction of its mass, forming the equivalent of only about six inches deep of mercury, no more of oxygen than is contained in five feet deep of granite, around the terrestrial globe?

III. If the interior of the earth be still composed of un-

of the general aëriform mass; the expansive or relative height of each being regulated by its original quantity and specific gravity.

oxydized metals, how, considering the shaken, broken, and sometimes overturned state of the envelope, and the intense affinity of oxygen for the metalloids, is not the whole mass of oxygen contained in water absorbed, and the hydrogen, susceptible of so limited combinations with other simple bodies, set at liberty and surrounding the oxydized metalloid and metallic nucleus as an atmosphere?

These objections, I think, cannot be satisfactorily answered. The assumption of the hydrogen being stored up for ages in fissures and caverns to become the vehicle of an accidental oxidation of metalloids is, to say the least of it, gratuitous and almost childish. On the other hand, if the oxidation of the central mass is still going on through the decomposition of water, how is it that hydrogen has not been detected amongst the gaseous products of volcanos, except in evanescent quantities, or as an insignificant accident, whilst immense masses of water are ejected either alone or with solid matter, or through thermal springs; thus showing that the oxidation of hydrogen and that of the lava must have been parallel, not antagonistic facts?

§ *VII.*

As the actual condition of the globe cannot be explained by the supposition of a solid or a liquid metalloid nucleus, surrounded by an oxygenic atmosphere, and as it nevertheless appears indubitable that the oxygen and bases have had a separate existence in time, there is no alternative; we

From the condensation of these concentric gaseous rings or strata, increasing in weight as they ap-

must consider the whole of these elements as having begun the actual order of nature by passing from the gaseous or aëriform state to the state of liquidity, of which solidification is the consequent fact.

§ *VIII.*

The simple bodies which compose, or are enveloped in, the mass of the solid crust, therefore, have once been possessed of the same independent existence as now are the component parts of the atmosphere.

The supposition that the metalloids could have passed to the liquid state before uniting with an oxygenic atmosphere would be gratuitous and irrational; because the condition the most favourable to the development of their intense affinities was the mutual and intimate penetration of their masses whilst in the state of concentric atmospheres approaching the stage of liquid condensation.

These views have been partially taken up by Professor Daubeny in the second edition of his 'Description of Volcanos,' published last year, about three months later than my First Essay.

After some depreciating remarks against cosmogonist geologists in general, the learned Professor coolly possesses himself of *their* ideas. The cosmogonists alluded to could only look with silent contempt upon these unphilosophical and illiberal attacks, if the author had given a fair explanation of their speculations; but when (putting aside his uncontested merit as a collector and a compiler of facts) we consider that

proached nearer to the centre, was formed the melted, now incrusted, matter of the globe, whose interior parts are found to be, by mathematical calculations, exactly what the hypothesis requires; "not only more dense than the exterior, but with inner surfaces of equal density, symmetrical to the same centre and axis as the external elliptical figure." (See Phillips's 'Geology,' vol. i., p. 27; and Conybeare's 'Reports of the British Association,' vol. i., p. 408.)

The rarity of the metals disseminated in the crust may have been determined by the weight of their vapour, and their original quantity, which regulated the limit of their expansion. The inequality of their distribution may be due either to the formation of primitive clouds, or to subsequent emissions through the numerous clefts and openings of the

by endeavouring to bend these speculations to his own views, he only produces a very clumsy theory, which is not even worth criticising, WE may naturally complain of misrepresentation, and be induced to inquire, besides, why, if, according to his own declaration, Dr. Daubeny *places so little confidence in cosmogonic systems*, he appropriates and develops these systems as HIS OWN "*statement of the chemical theory of volcanos?*"

crust, and to penetrations and remeltings of the primitive envelope.

Oxygen was the active element destined to operate the fixation of the great bulk of the other enclosed vapours. Through its union with the metalloids and some of the metallic gases, these were transformed into acids or oxides, endowed with special affinities which manifested themselves through the law of definite proportions.

This active principle, which of itself constitutes about one half of the whole of the oxydized crust, became united with silicon. Next in quantity we see aluminium, then potassium, magnesium, calcium, and iron. All these oxygen appropriated. This union was not successive, beginning with one base, then with another, but was accomplished simultaneously between oxygen and all the bases; for they are all intimately mingled together, as if they had been in close contact, until the crystalline affinities arranged them in distinct patches, of various forms and sizes, according to the normal and accidental circumstances of the solidification.

[Here the idea suggests itself that the cold radiating from the body of [illegible] was developed in the transition from [illegible] melted state.—*See also* '*Philosophy of Geology*,' *page* 163 *and following*.]

Finally; it may be added, in support of this hypothesis, that it forms the passage between the astronomical and the geological views of the origin of the globe; leaving no hiatus between the succession of phenomena from the creation of the centres of attraction in space and the consolidation of the earth's crust.

Thus the idea of a FIRST CAUSE, deduced from the consideration of a beginning, evolves itself from the examination of the geological condition of the concrete terrestrial matter, as well as it does from astronomical speculations on a former gaseous existence of the stellar clusters and solar systems.

CHAPTER XXVIII. AND LAST.

§ XC. The organic creation—Reference to 'Philosophy of Geology'—The question reduced to a small compass—That progress supposes a beginning—and a beginning supposes the non-eternity of the law of development—A point of starting, &c.—§ XCI. Philosophy based upon the contemplation of astronomical and geological facts—§ XCII. Sublimity of this contemplation—§ XCIII. Arguments of metaphysicians against the philosophy of contemplation and experience—Answer to the reproach of circumstantial fatalism—Origin of instincts—Notions of good and bad—§ XCIV. Utility the objective of design.

§ XC.

In regard to the organic creation; without entering into details, I may remark that I entirely concur with the severe but just critic of the '*Vestiges of Creation*' in the 'Edinburgh Review;' and that in the 'Philosophy of Geology' I have developed my views on this subject, in opposition both to the author of the 'Vestiges' and to Mr. Lyell; contending that "the supposition of the existence in

matter of an inherent principle tending to produce a general type, such as a simple vesicle, in the bosom of which another vesicle develops itself, endowed like the former with the faculty of engendering another new vesicle, &c., cannot dispense with the intervention of a designing principle, which must have invested this same vesicle with all the attributes necessary to its development in superior organizations, comprising the phenomena of intellect, with its most sublime individualities."

The question may be reduced to the small compass of a logical argument, similar to the one which I have used in § LXXXV., to show the incompatibility of an eternal law of condensation with the fact of a beginning of condensation.

Those who, like the writer of the '*Vestiges*' and the celebrated author of '*Cosmos*,' consider the organic creation as being the result of the agency of universal laws, must either admit that these laws have begun in time or that they have existed from all eternity.

If these laws have existed from all eternity, the

world has always been such as it is now—man has always originated from man—the present order of things is a permanent, invariable, immutable fixity. But this they do not admit—they suppose in matter a kind of secret, mysterious power of organizing and transforming itself, through a long continuation of ages, into successively higher and more perfectly organized beings. In this, however, they do not perceive that they virtually give up the idea of the eternity of the organic laws. A process of changes and improvements, in an ascending scale, supposes a point of starting. A point of starting supposes a beginning of facts.—The point of starting, the beginning, and the succession of facts are all necessary elements of a law of progress. The idea of progress is as destructive of the idea of the eternity of organic natural laws, as the admission of a beginning of condensation is fatal to the view that the power of condensating has always existed in the ethereal space.

Thus, should even the doctrine (supported by an immense evidence of facts) of the successive creation

of the various types of animals, entombed in the strata of the earth, be superseded by the hypothesis of successive development and transformations, the idea of a beginning of organic life would remain unshaken and standing upon the unassailable basis of a logical demonstration.

§ XCI.

Such then is the result of a system of philosophy based upon speculations arising from the study of natural historical facts.

THE DUALITY.

A CREATION — A CREATOR.

I. A material substance the basis of a succession of phenomenal events.

II. An omnipotent mind as a first cause.

And between the two,

MAN,

The highest expression of intellect, in terrestrial organized nature.

§ XCII.

What could be more elevated and beautiful than the contemplation of the Supreme Intellect working out HIS IDEA of the universe in the infinity of space: first regulating the ether, attaching gravitation to matter, fixing the place of the centres of attraction; then creating life; placing intellect in organization, and reason in man: WE, as individuals, the designed objects of all these wonders, contemplating them, unravelling, one by one, their innumerable folds; WE, as a race, tracing back all these divine conceptions, from the past events of nature; sinking slowly, century after century, into the deep past, turning one by one the sublime pages of the history of our planet, reading them backward, like the Hebrew, until we find out the written types of the title-page—the Beginning—the A B C of the Creation?

From this, even, might man raise himself to the idea of a time when ethereal light had no existence—when the Omnipotent Mind produced the

phenomenal foundation of this bosom of the absolute and perfect unity of his eternal, unfathomable essence!

§ XCIII.

One of the principal arguments of spiritualist metaphysicians against the philosophy of physical contemplation and experience, is the dreadful perspective in which they imagine that the destiny of mankind would be enveloped if sensationalism was true.

If the mind, it is said, is under the exclusive and absolute guidance of sensation, or if procuring pleasure and avoiding pain are the only motives which determine volition, our actions must be uncontrollable, or commanded by circumstantial fatalism.

If there is no liberty of action there cannot be a just basis of justice, and the principles of right and wrong are naturally placed under the only control of pleasure and pain.

But, it is to be remarked that the undeniable fact

of our having the liberty of acting against the solicitations of pleasure, and of voluntarily suffering pain, [illegible] foolish that we are not under the [illegible] of our sensations; and even was this rigidly the case, there would not be the slightest ground for pretending that pure sensationalism is [illegible] pure spiritualism to the admission of the moral element, as the leading principle of [illegible]. Because the ideas of goodness, justice, and virtue are [illegible] by the mind through the channel of the senses, it does not follow that [illegible] are not to be the rule of conduct. Absolutely nothing is gained by dealing with the mediation of the senses.

Besides this, I may be allowed to repeat that I [illegible] the germs of instincts, desires, and affections [illegible] originally in the undeveloped mind,* [illegible] which possess themselves of and also [illegible] the principles contained in the facts of the external world; but even their origin may be traced to sensations.

* See First Essay, page 120.

...ON CONSCIENTIOUSNESS...

...sidered as having been first implanted ... the human ... at the creation of the race, and ... mitted, from generation to generation, ... *instinctive capacity* and ... veloped by education ... life.

As to the ... Mr. Morell ... make a few ...

You often ... virtue. A ... bad system. ... true philosophy ... and enhance ... within the ... complete ...

... Deity. This shows ... the wisdom of ... who has decreed that we ... and satisfaction in doing ... good ... are all cast in the mould of ... individual ... be expected that we should

love sight of self. Hence God has indulgently offered us the strongest inducement for self-abnegation on this earth, in the hope and prospect of an eternal happiness in a better world.

THE END.

London: Printed by WILLIAM CLOWES and SONS, Stamford Street.

00059562

Digitized with financial assistance from the
Government of Maharashtra
on 27 February, 2016